Public Utilities

Volume 61 No. 2 January 16, 1958

COMMON STOCK EQUITY CAPITAL COSTS FOR GAS UTILITIES
By Donald C. Neill

« »

Answering Automation's Biggest Question
By James H. Collins

« »

Utility Industrial Development Programs Part I.
By C. E. Wright

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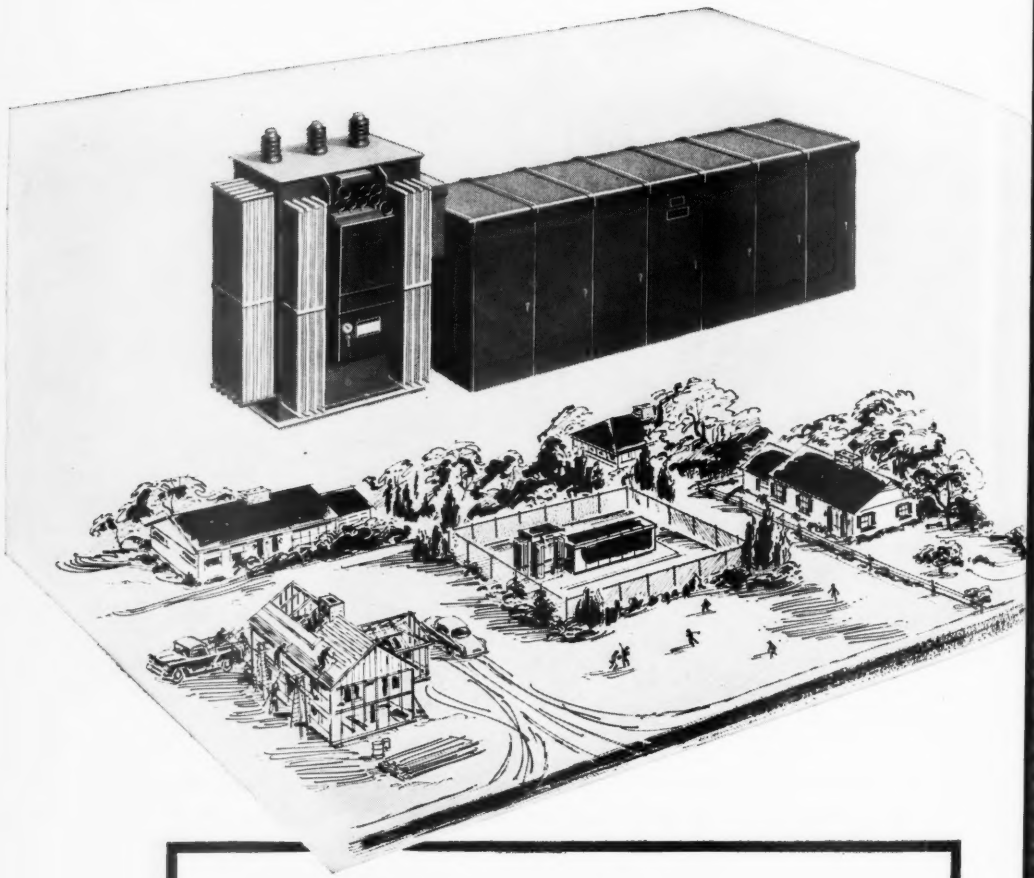
Cost of Capital in Rate Regulation

Packaged unit substations mean packaged acceptanc



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Are persons dislocated by mechanization able to find new jobs comparable with the ones displaced by automation?

Utility Industrial Development Programs. Part I. ..... *C. E. Wright* 96
American industry is on the move and utility service is among the factors which must be considered in locating or relocating.

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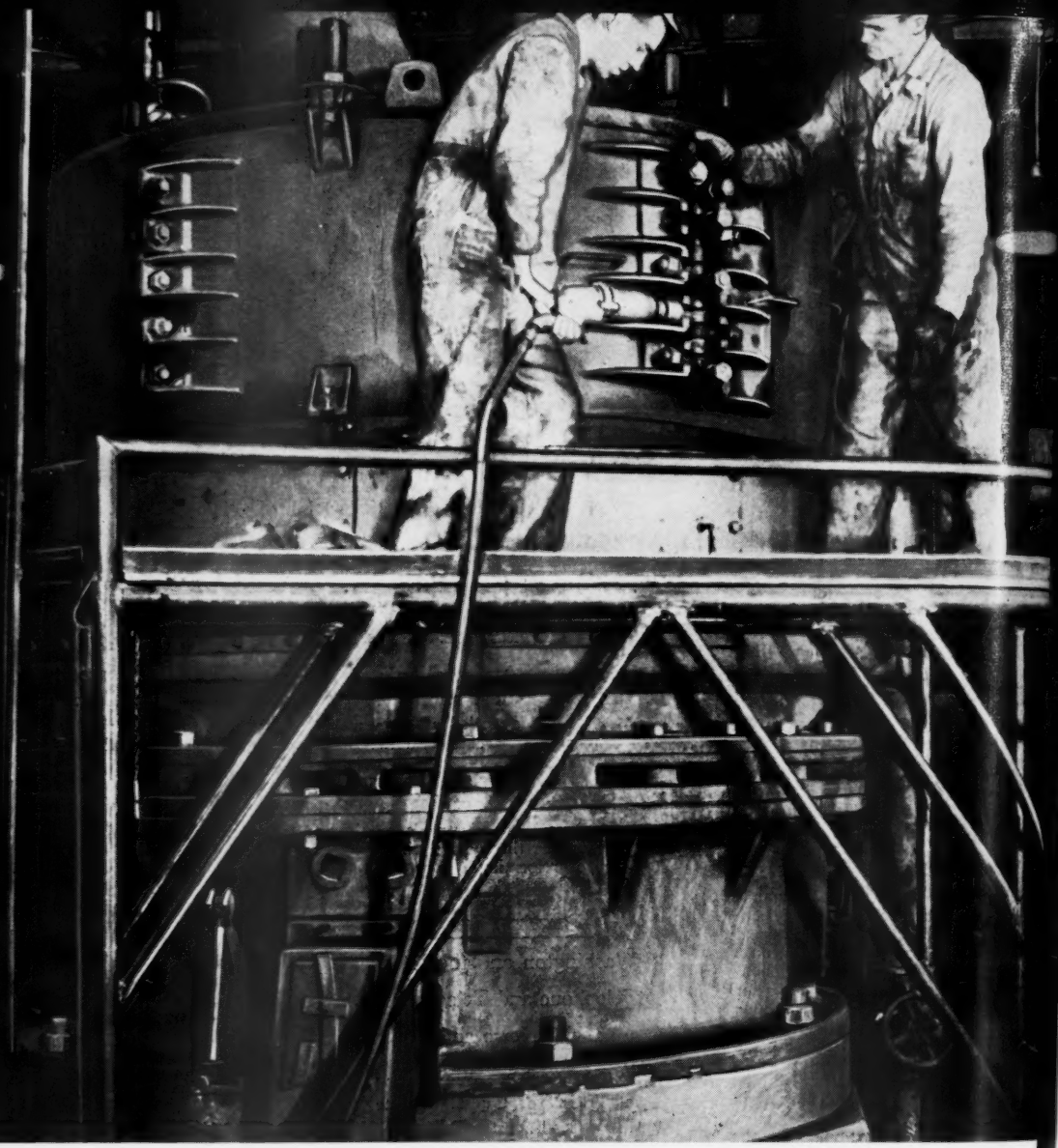

Representative steps in pulverizer disassembly shown here demonstrate e
safety of maintenance. Access doors are opened by impact wrenches. D
swung back, not removed.

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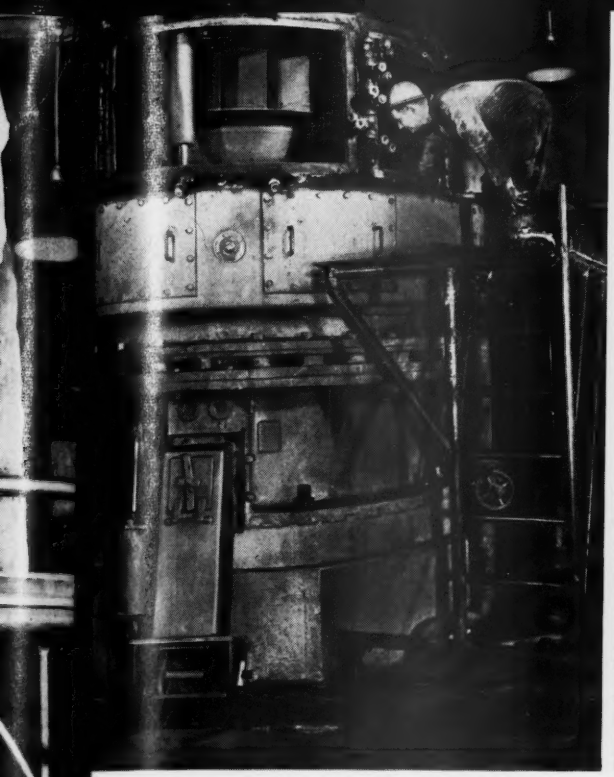
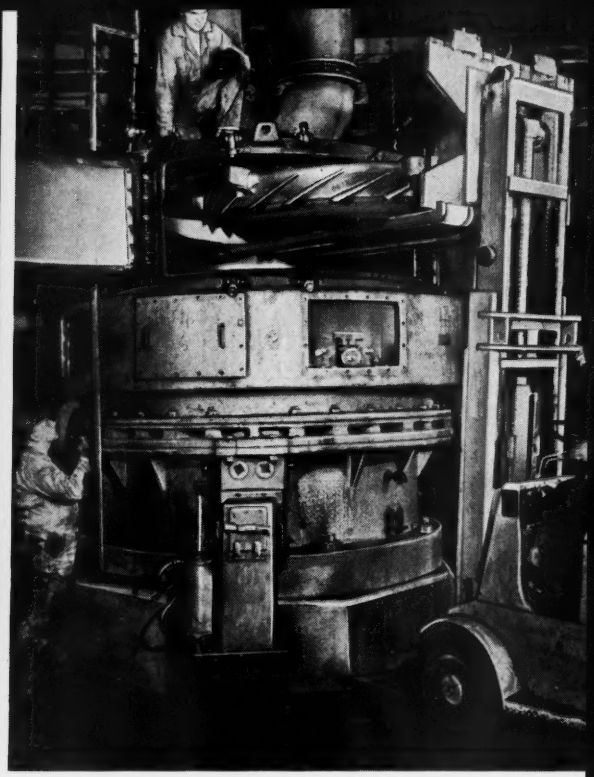
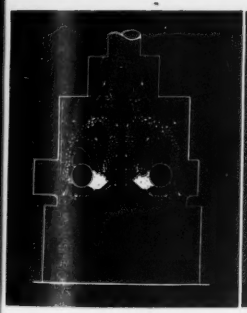


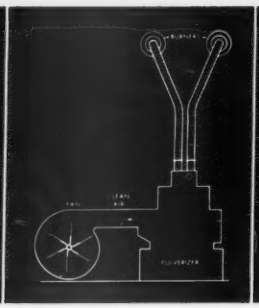
ors swung open, classifier and spring assemblies are accessible for removal. Grinding components are ithout special rigging.



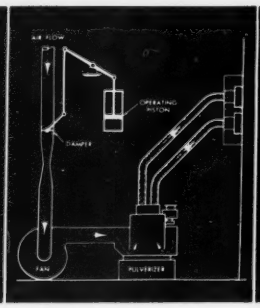
Top grinding ring is lifted by chain falls and, following moval of scaffolding, lifted and transferred by fork lift tru Lower grinding ring is removed in same simple manner.



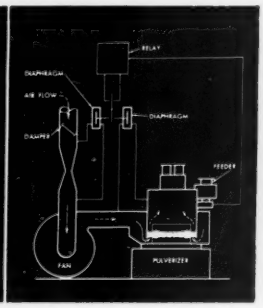
Coal Recirculation assures high fineness, aids drying.



Pressure System eliminates fan wear, simplifies piping.



Air Control maintained at one, simple contact point.



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g elements of long-wearing, special alloy ma- maintain this proper grinding contact through- r service life. Dependable classification permits aterial of proper fineness to leave the unit.

ade Coal, even wet coal, is handled efficiently. e B&W recirculation of fuel through heated res complete grinding, eliminates shutdowns, capacity, and special attention from operators.

int-Contact with the boiler simplifies oper- oiler's automatic combustion control connects ulverizer at the damper in the primary-air duct. it's own control system regulates all other s.

Continuous, Intensive Development by B&W engineers has brought excellent and measurable results to users of B&W Pulverizers. Supported by a national network of plants and engineers, B&W Pulverizers and Pulverized-Fuel Firing Systems open new avenues to operating economy. The Babcock & Wilcox Company, Boiler Division, 161 East 42nd Street, New York 17, N. Y.

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Pages with the Editors

WE were intrigued last month with the dispatch from Little Rock, Arkansas, which suggested that the use of natural gas for street lighting was really being considered in that community. W. R. Stevens, chairman of the board of Arkansas Louisiana Gas Company, made an offer of free fixtures, poles, and monthly gas supply if the city authorities would authorize air conditioning of City Hall—with natural gas, of course.

THE idea of using gas for street lighting in this day and age is an interesting variation from the usual pattern. Only last August the city of Baltimore—the first city in the United States to use gas lighting, in 1817—turned off the city's last flickering, yellow gas street light. The occasion was marked by a ceremony in which Baltimore's Mayor D'Alesandro cut off the valve amid the popping of flash bulbs. Thus ended an era which began 140 years ago.

As in the case of the vanishing streetcar, the gaslight era has developed some nostalgic enthusiasts, who might be called gaslight buffs. Herman H. Diers, a retired employee of the U. S. Bureau of Public Roads, used to make a pilgrimage over to Baltimore many times for a glimpse of his cherished gas lamps. Diers tried to persuade city officials to use one

JAMES H. COLLINS

DONALD C. NEILL

of the now discarded lamps as a perpetual burning memorial to his favorite city.

HE corresponded energetically with Baltimore city officials and Congressmen with the idea of erecting a memorial at the corner of Fawn street and Slemmers Alley. This was the spot in downtown Baltimore where Rembrandt Peale, the versatile painter, first demonstrated gaslight. But Diers could not strike the necessary spark of sympathy in the practical hearts of today's politicians, and so his romantic project died aborning. But maybe the natural gas company officials in Little Rock will have better luck with the new proposal. That would be an actual working lighting system—not just a curio.

PARIS was probably the first city to have organized street lighting, which was developed by candles in the early part of the sixteenth century. Two hundred years later pitch or resin bowls were substituted. In 1820 Paris was lighted by manufactured gas. Gas lighting had already been introduced in Baltimore, as already noted.

IT is an interesting fact, however, that the invention of the Welsbach mantle did not come until 1885, three years after Thomas Edison had opened up his famous Pearl street electric station in New York

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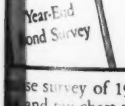

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25,000,000	THE CINCINNATI GAS & ELECTRIC COMPANY First Mtge. Bonds, 4⅛% Series Due 1987	8,250,000
50,000,000	DUKE POWER COMPANY 4⅞% Sinking Fund Debentures due Sept. 1, 1982	7,850,000
15,000,000	FLORIDA POWER & LIGHT COMPANY First Mtge. Bonds, 4⅛% Series due 1987	3,100,000
20,000,000	GENERAL TELEPHONE COMPANY OF CALIFORNIA First Mtge. Bonds, Series K, Due June 1, 1987 (5%)	2,500,000
15,500,000	GEORGIA POWER COMPANY First Mtge. Bonds, 5¼% Series due 1987	5,450,000
17,000,000	GULF STATES UTILITIES COMPANY First Mtge. Bonds, 4⅞% Series due 1987	5,800,000
40,000,000	HOUSTON LIGHTING & POWER COMPANY First Mtge. Bonds, 4¾% Series due 1987	7,000,000
40,000,000	ILLINOIS BELL TELEPHONE COMPANY First Mtge. 4¼% Bonds, Series E, Due March 1, 1988	5,150,000
19,000,000	METROPOLITAN EDISON COMPANY First Mtge. Bonds, 4⅞% Series due 1987	4,350,000
40,000,000	MICHIGAN BELL TELEPHONE COMPANY Thirty-Five Year 4¼% Debentures Due Nov. 1, 1992	5,150,000
30,000,000	MICHIGAN WISCONSIN PIPE LINE COMPANY First Mtge. Pipe Line Bonds, 6¼% Series due 1977	2,450,000
11,880,000	NORFOLK AND WESTERN RAILWAY EQUIPMENT TRUSTS Series A & B 3⅛% & 4⅛% Ctfs. Due 1957-72	6,330,000
25,000,000	OHIO POWER COMPANY First Mtge. Bonds, 4⅞% Series due 1987	6,300,000
20,000,000	OKLAHOMA GAS AND ELECTRIC COMPANY First Mtge. Bonds, Series due 1987, 4½%	5,800,000
95,000,000	PACIFIC GAS AND ELECTRIC COMPANY† First & Ref. Mtge. Bonds, Ser. AA & BB, 4½% & 5% Due 1986 & 1989	9,175,000
12,000,000	PACIFIC POWER & LIGHT COMPANY First Mtge. Bonds, 5⅛% Series due 1987	1,600,000
90,000,000	THE PACIFIC TELEPHONE AND TELEGRAPH COMPANY Twenty-Three Year 5⅛% Debentures Due Aug. 1, 1980	6,650,000
12,000,000	PUBLIC SERVICE COMPANY OF OKLAHOMA First Mtge. Bonds Series F, 5¼% Due Feb. 1, 1987	8,700,000
20,000,000	PUGET SOUND POWER & LIGHT COMPANY† First Mtge. Bonds, 6¼% Series due 1987	2,550,000
15,555,000	SEABOARD AIR LINE RAILROAD EQUIPMENT TRUSTS Series Q & R, 4 & 4¼% Ctfs. Due 1957-72	7,530,000
125,000,000	SEARS ROEBUCK ACCEPTANCE CORP.† 4¼% & 5% Debentures Due 1972, 1977 & 1982	10,490,000
70,000,000	SOUTHERN BELL TELEPHONE AND TELEGRAPH COMPANY 29 Year 5% Debentures Due June 1, 1986	8,650,000
80,000,000	SOUTHERN CALIFORNIA EDISON COMPANY First & Ref. Mtge. Bonds, Ser. I & J, 4¼% & 4⅞% Due 1982	15,250,000
35,000,000	SOUTHERN CALIFORNIA GAS COMPANY First Mtge. Bonds, Series C, Due 1983 (5⅛%)	5,200,000
21,600,000	SOUTHERN PACIFIC COMPANY EQUIPMENT TRUSTS Series WW, XX & ZZ, 4¼% & 4½% Ctfs. Due 1958-72	10,200,000
100,000,000	SOUTHWESTERN BELL TELEPHONE COMPANY Thirty-Five Year 4¾% Debentures, Due Oct. 1, 1992	25,150,000
75,000,000	TENNESSEE GAS TRANSMISSION COMPANY† First Mtge. 5¼% Bonds & 6% Debentures, Due 1977	4,397,000
15,000,000	UTAH POWER & LIGHT COMPANY First Mtge. Bonds, 5¼% Series due 1987	6,150,000
20,000,000	VIRGINIA ELECTRIC AND POWER COMPANY First & Ref. Mtge. Bonds, Series N 4½%, Due 1987	2,650,000
20,000,000	WEST PENN POWER COMPANY First Mtge. Bonds, Series Q, 4⅞% Due July 1, 1987	3,850,000
30,000,000	WISCONSIN TELEPHONE COMPANY Thirty-Five Year 4½% Debentures Due July 1, 1992	5,500,000
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AND OTHER PRINCIPAL CITIES

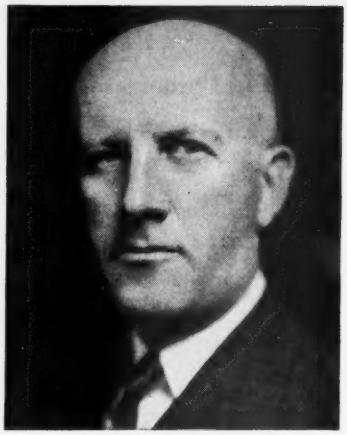
city. But because gas was already installed in most city homes, whereas electricity was struggling for establishment, the Welsbach mantle gave the gas industry a new lease on life by holding much of the lighting business for a decade or more in many cities. Thanks to this ingenious device, the gas industry was enabled to bridge the transition from dependence on a lighting load to the establishment of a heating load, on which its service mainly is based today.

THE fact that a gas company would propose, on its own, to donate a city's street-lighting system is really not so surprising when the record of public utility companies, in general, for community building is examined. Such an examination has been made by C. E. WRIGHT of Jacksonville, Florida. He has undertaken a rather exhaustive survey of utility company practices in connection with attracting or improving industrial developments in their respective service areas. The returns from this survey were so various and noteworthy that a three-part article was found necessary, to avoid cutting too short much of the interesting factual material MR. WRIGHT has collected. The first part of this series begins in this issue, on page 96.

* * * *

THE opening article in this issue deals primarily with the cost of common stock for gas utilities. But it is a discussion of relationship between earnings and stock prices which should be of interest to all kinds of utilities. The general conclusion of the author is that under prevailing conditions of rising capital costs public utilities in fair value states will find it relatively easier to obtain access to capital markets at a lower average cost than will those operating in states where original cost regulation is the required standard.

THIS proposition is demonstrated by analysis and selected financial statistics for original cost and fair value gas distribution utilities in the year 1955. The author of this article is DONALD C. NEILL, rate analyst of the Southern Counties Gas Company of California. He is a graduate of Pomona College (AB, Economics) and has a Master's degree in business administration from the University of Southern California. Prior to joining Southern Counties Gas Company he was on the research staff of the California Public Utilities Commission, in which position he made economic and financial studies and testified in numerous rate cases as an expert witness on general expenses, taxes, and rate of return calculations.



C. E. WRIGHT

* * * *

BEGINNING on page 84 the well-known author of business articles, JAMES H. COLLINS, Washington, D. C., deals with a subject widely considered and worthy of further discussion. The conclusion is not startling; namely, that the final result of automation is advantageous to all, but that there may be transitional dislocations burdensome to a few. The author in this article takes up the question of whether persons dislocated by mechanization are able to find new jobs comparable with the ones displaced by automation. So far not much following up has been done to see what happens with jobs and people under this condition. This would appear to be a fertile new field for public and employee relations development.

THE next number of this magazine will be out January 30th.

The Editors

"WHAT D'YOU SEE, MISTER?"

The future, son! New homes, new towns, new industry . . . in the Heartland of America!

* * *

The natural gas pipeline surveyor is a symbol of progress . . . of residential and industrial growth in that part of America's Heartland served by Columbia Gas System.

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Columbia Gas System companies look to the future by planning and building to meet these increasing needs for natural gas . . . to keep pace with the phenomenal growth of America's Heartland.

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THE COLUMBIA *Gas* SYSTEM, INC.

COLUMBIA GAS SYSTEM SERVICE CORPORATION

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TSBURGH GROUP: *The Manufacturers Light and Heat Company, Columbia Gas of New York, Inc., Cumberland and Allegheny Gas Company, Home Gas Company*

Coming IN THE NEXT ISSUE

(January 30, 1958, issue)

★

AN ANTIDOTE TO HIGHER INTEREST RATES

It would be advantageous, in this period of high money costs, for utility management to offset, if possible, the impact of higher capital expense by applying the same higher rates to the capitalization of the money invested in new facilities under construction. According to this author, Willard F. Stanley, former utility executive and financial writer, this treatment is entirely legitimate and recognized as a necessary part of the cost of building any new property.

ALL-LEVELS CONFERENCE SYSTEM FOR UTILITIES

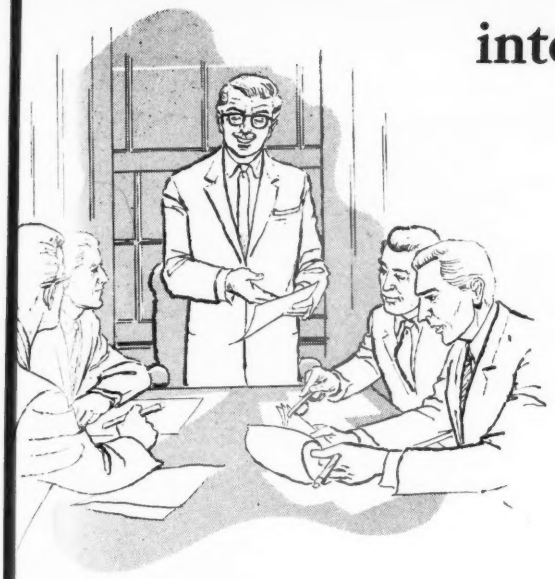
This article by Robb M. Winsborough, vice president of Middle West Service, Inc., and a veteran consultant and collaborator on the conference system of educational programs dealing with a better understanding of the American enterprise system, explains this particular form of technique. It is one of several approaches being used in training utility personnel to get a better grasp of the general economic structure. Other forms of training in this field will be further explored in future articles. This author explains how a utility company can reorganize its managerial structure so as to accommodate a continuous and intensive program of educational activity built around the conference system.

UTILITY INDUSTRIAL DEVELOPMENT PROGRAMS. PART II.

This article is the outgrowth of a rather exhaustive survey of utility company practices in connection with attracting or improving industrial developments in their respective service areas. The returns from this survey were so varied and noteworthy that a three-part article was found necessary to avoid cutting short much of the interesting factual material. The author is C. E. Wright of Jacksonville, Florida, a well-known writer of business articles and former trade magazine editor. Mr. Wright's second instalment deals with the impact of industrial migration on utility service and vice versa. Among the factors which must be considered in locating or relocating an industry are the availability of services of all kinds: transportation, water supply, raw materials, capital and labor, prevailing wages, taxes, and local cultural opportunities.

★

Also . . . ***Special financial news, digests, and interpretations of court and commission decisions, general news happenings, reviews, Washington gossip, and other features of interest to public utility regulators, companies, executives, financial experts, employees, investors, and others.***



"I do not exclude the intelligent anticipation of facts* even before they occur."

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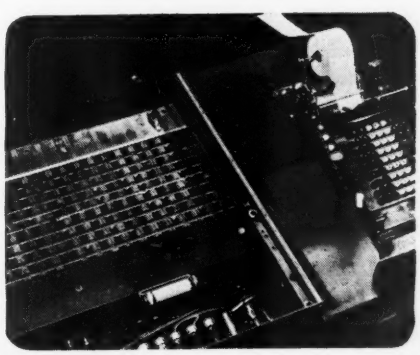

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President, Santa Fe Railway.

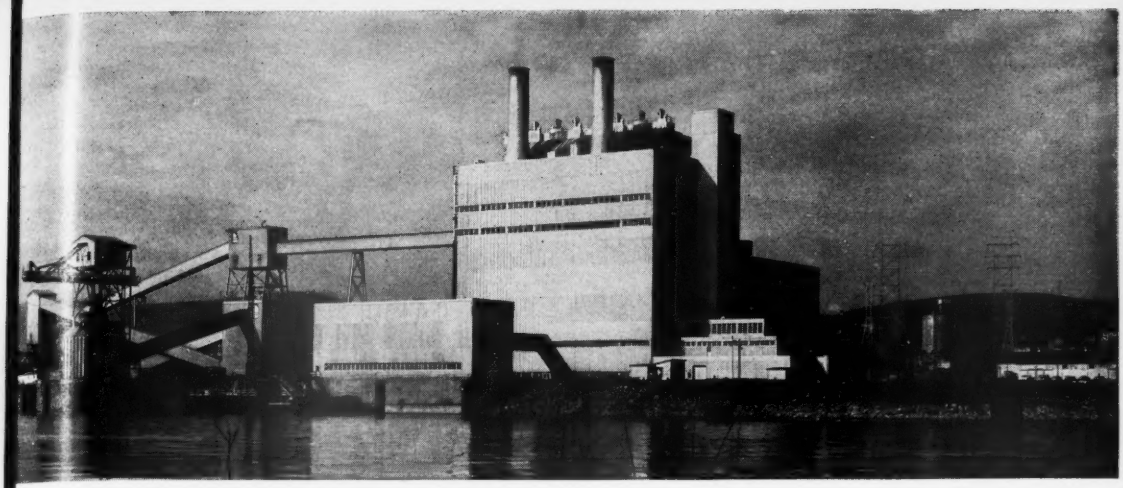
"I sincerely regret the need for seeking higher rates, but until we cure the malady from which our economy is suffering, no other course is open to us . . . Our economy is built around its transportation system, and the railroads are the backbone of that system. Unless the railroad plant can keep pace with agriculture and industry and provide the services which they need, our whole business system will falter."

Excerpt from First National City Bank June Letter.

"[Great Britain is ahead of us] in the substitution of government enterprise for private enterprise and Socialism for Capitalism. We should not be in such a hurry that we neglect to observe what happens when government invites dependence of people on benefits financed by crushing taxes on individual initiative and capital accumulations. . . . The concern of the people should not be with the dangers of turning back the clock—and the government's rôle—to the America of 1890. Rather, it should be the danger of turning it ahead to the Great Britain of 1957."

FRANK CHODOROV
Contributing editor, Human Events.

"The American doctrine holds that men 'are endowed by their Creator with certain unalienable rights.' . . . 'I have a right,' is the immediate reaction of every American who comes into conflict with authority . . . Now we must never forget that the concept does not ascribe authority for these rights to the government. They inhere in the individual by virtue of his existence and come with him when he is born. Government is instituted for the sole purpose of preventing a person (or a gang of persons, even a majority) from invading the rights of any person or persons coming under its protection. That is, the government is a policeman only, having no other competence in the field of rights."



Q-Panel walls grace the new Elrama Power Plant (above) near Pittsburgh. It was designed by Duquesne Light Company's Engineering and Construction Department. The Dravo Corporation was General Contractor.

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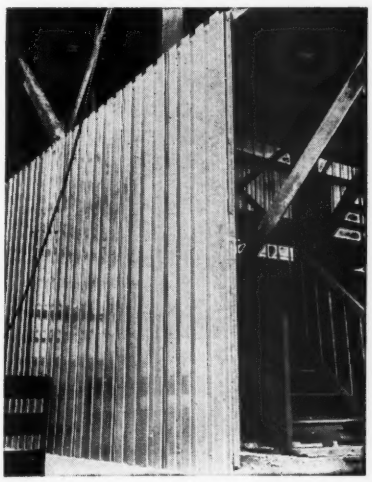
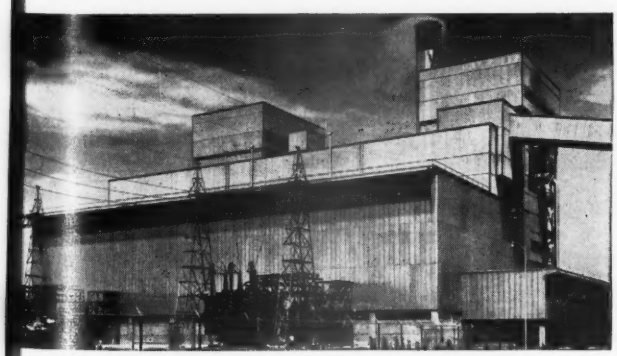


Q-Panel walls (above) go up quickly in any weather because they are dry and hung in place, not piled up.



More than 32,000 sq. ft. of Q-Panels were used to enclose the impressive Hawthorn Steam Electric Station (left) of the Kansas City, Missouri, Power and Light Company. Ebasco Services, Inc., designed and built the plant.

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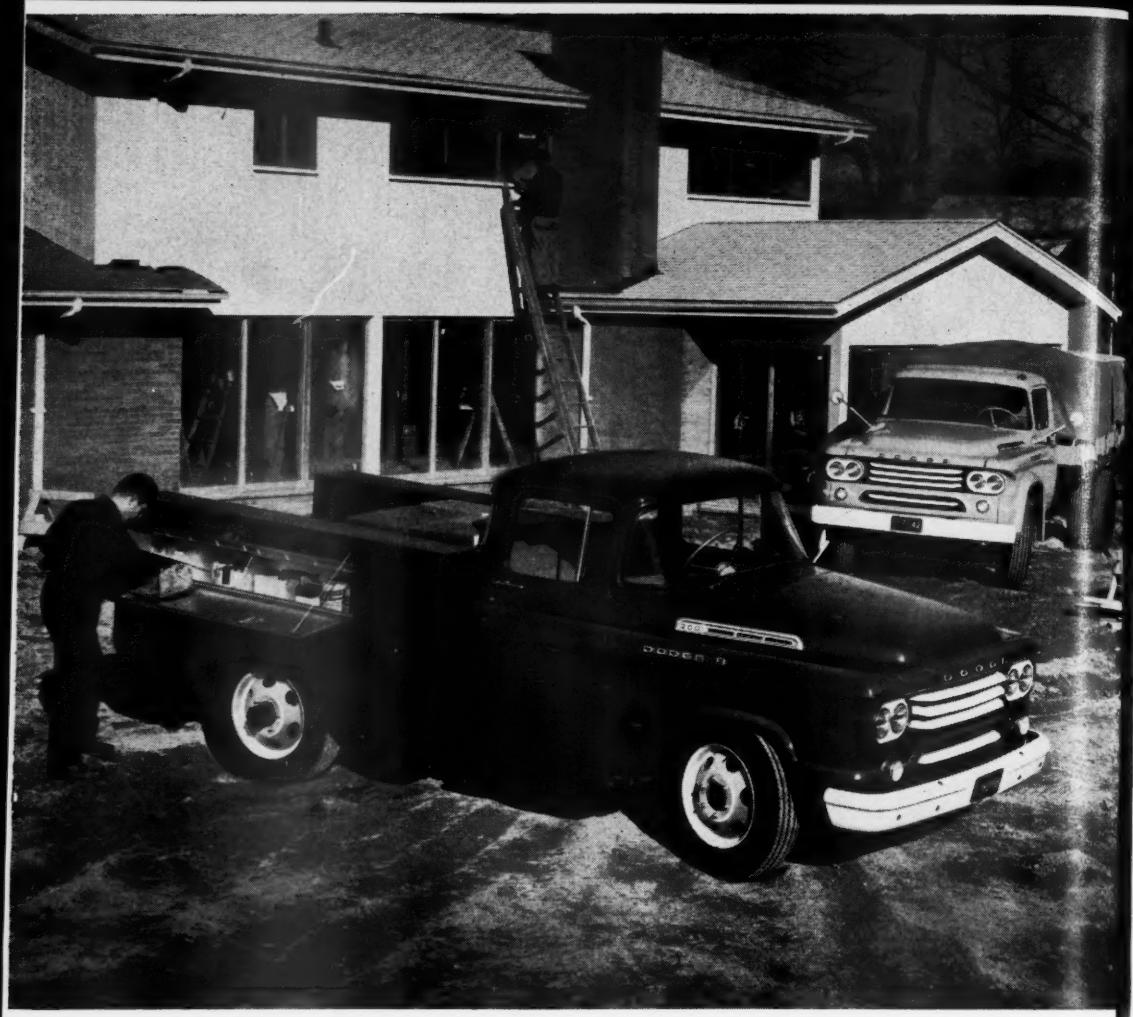

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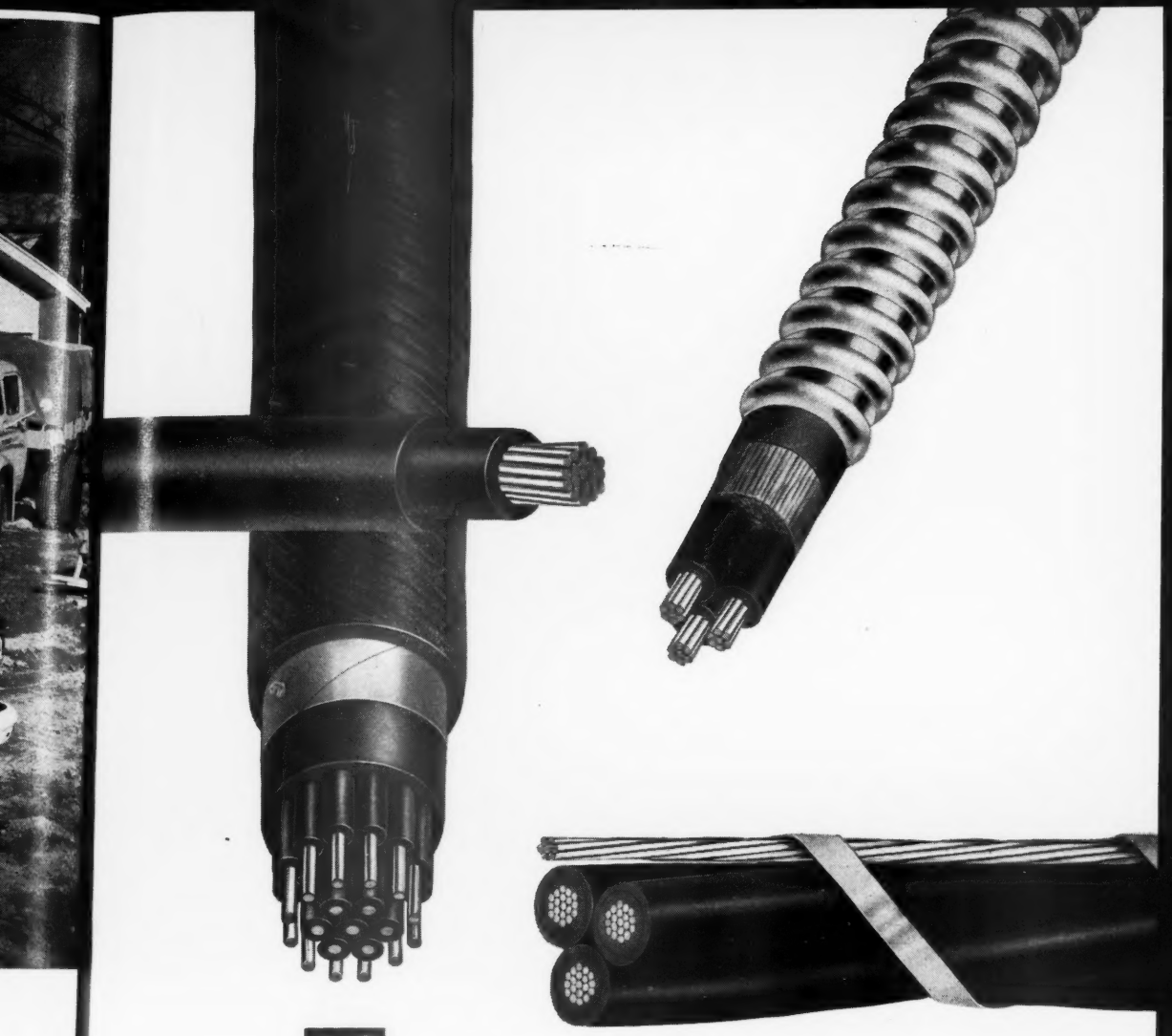
All in all, truck owners would be well advised check into the '58 *Power Giant* line-up before placing or adding units. These Dodge trucks definitely four-way leaders of the low-priced th

DODGE *PowerGian*



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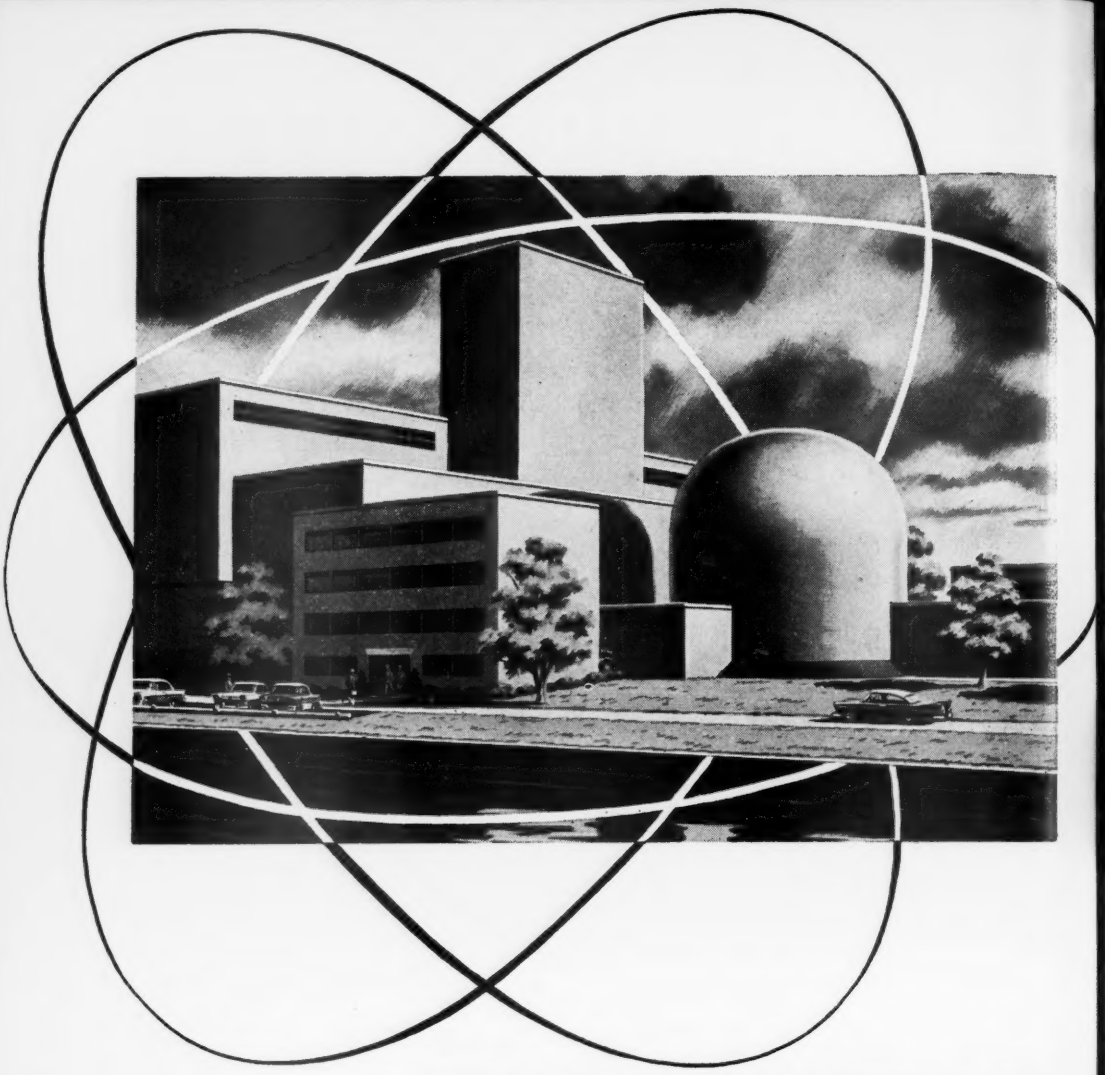

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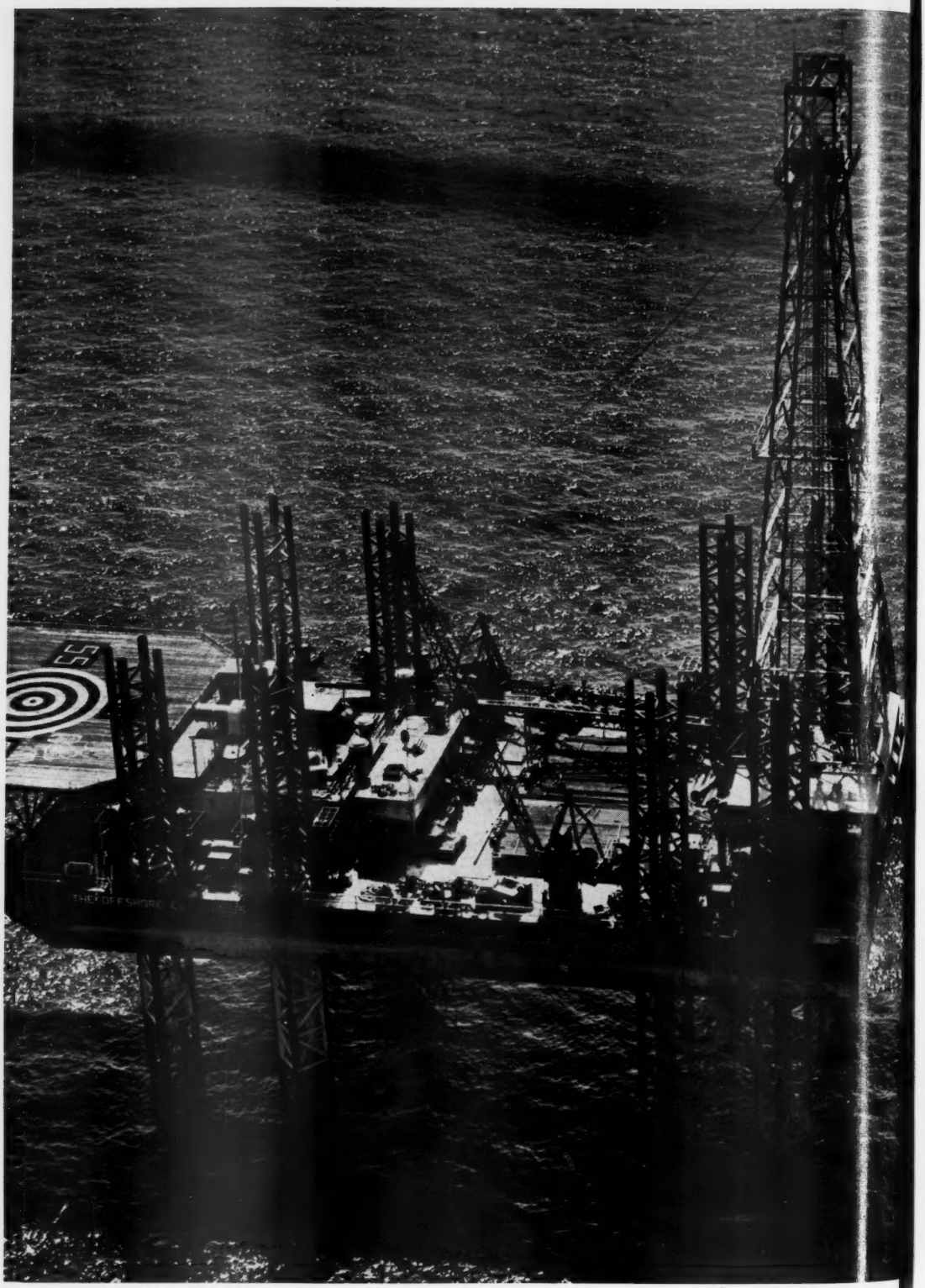
JANUARY

Thursday—16 *Edison Electric Institute, Industrial Relations Committee, begins meeting, Washington, D. C.*	**Friday—17** *Oklahoma Utilities Association, Accounting Section, begins meeting, Tulsa, Okla.*	**Saturday—18** *National Association of Purchasing Agents, Public Utility Buyers Group, will hold midwinter meeting, Philadelphia, Pa. Feb. 2-4.* ***Advance notice.***	**Sunday—19** *National Association of Home Builders begins convention, Chicago, Ill.*
Monday—20 *National Rural Electric Cooperative Association will hold annual meeting, Dallas, Tex. Feb. 2-6.* ***Advance notice.***	**Tuesday—21** *American Institute of Electrical Engineers will hold winter general meeting, New York, N. Y. Feb. 3-7.* ***Advance notice.***	**Wednesday—22** *Western Winter Radio-TV and Appliance Market will hold western merchandising mart, San Francisco, Cal. Feb. 3-7.* ***Advance notice.***	**Thursday—23** *Public Utilities Advertising Association begins regional meeting, San Francisco, Cal.*
Friday—24 *Southern Gas Association begins pipeline chief engineers' round-table conference, El Paso, Tex.*	**Saturday—25** *American Water Works Association, Indiana Section, will hold annual meeting, Indianapolis, Ind. Feb. 5-7. Advance notice.*	**Sunday—26** *American Women in Radio and Television end 3-day annual sight and sound seminar, Palm Beach, Fla.*	**Monday—27** *American Society of Heating and Air Conditioning Engineers begins annual meeting, Pittsburgh, Pa.*
Tuesday—28 *Industrial Heating Equipment Association ends 2-day meeting, Pittsburgh, Pa.*	**Wednesday—29** *Annual Institute on the Law of Oil and Gas and Taxation begins, Dallas, Tex.*	**Thursday—30** *Edison Electric Institute, Dealer Co-ordination Committee, begins meeting, New York, N. Y.*	**Friday—31** *Pennsylvania Electric Association, Prime Movers Committee, ends 2-day meeting, Hershey, Pa.*



Courtesy, Southern Natural Gas Company

Seagoing Gas Rig

This 4,500-ton mobile, deep water drilling barge can drill wells in 100 feet of water.

Public Utilities
FORTNIGHTLY

VOL. 61, NO. 2 JANUARY 16, 1958

Common Stock Equity Capital Costs For Gas Utilities

The general conclusion of the author is that under prevailing conditions of rising capital costs public utilities in fair value states will find it relatively easier to obtain access to capital markets at a lower average cost than will those operating in states where original cost regulation is the required standard.

BY DONALD C. NEILL*

SINCE World War II, public utilities have embarked upon a tremendous expansion in physical plant necessitated by the pent-up demand for service, plus the additional demands resulting from a higher standard of living. This investment has been made at high cost at the same time utilities are faced with increasingly higher costs of operation. As the rate of return on plant investment deteriorates due to increasing costs, the utilities are caught in a squeeze—how can additional investment funds be obtained from the public at a reasonable cost when earnings are lagging or trending downward? The common answer is found in charging higher rates for service, with the expectation that this will result in improved earnings. To do this, advance authorization from regulatory commissions

*Rate analyst, Southern Counties Gas Company of California. For additional personal note, see "Pages with the Editors."

must be obtained. Since laws differ as between jurisdictions, the possibility exists that some states will be more generous in allowing net earnings than other states and some utilities will fare better than others. The question from the investment standpoint becomes—has the common stockholder actually appraised this effect as evidenced in the earnings-price ratio?

Therefore our problem: Is the cost of equity capital for distribution natural gas utilities as measured by earnings-price ratios different in so-called "fair value" states than in "original cost" states?

THE importance of this question lies in the fact that investors in utility stocks have a free choice of investing their savings in the securities of companies operating under either type of regulation. If the use of a "fair value" rate base in applying a reasonable rate of return will generate more dollars of return than will the application of the same rate of return to an "original cost" rate base, then, other things being equal, might it not be to the advantage of the investor to seek out those companies which receive the more favorable regulatory treatment? Further, would it not be a fair assumption, if a group of companies are subject to more favorable treatment, that the cost of equity capital would be less for such companies?

Most regulatory bodies throughout the country were established many years ago. Though some states or jurisdictions still operate under laws specifically requiring recognition of the "fair value" concept in rate making, the majority of states adhere to the "original cost" theory. The problem is to determine if the results of the application of these concepts are apparent in the earnings-price relationship of the common stock.

Before discussing the results of a detailed inquiry into this subject, it appears desirable to review briefly the historical background of each regulatory approach and refresh our thought with regard to "cost of money" generally.

I. The Evolutionary Concept of Value

IN the theory of noncompetitive economics, it will be remembered that whenever an industry becomes subject to public regulation, the standard of fairness or equity in establishing its selling prices becomes more important than market forces. The price to be set must meet the costs of doing business, which include operating expenses, taxes, depreciation, and a fair return on the fair value of the investor's interest in the business. The measure of this "fairness" is the difficult aspect in regulation. What is the fair value of the property? Can it be measured by recorded book entries? Is it the market value as represented by the cost to reproduce these properties at today's price levels? Or is it the cost when first devoted to public service, less the accrued depreciation? These questions and many others have all been reviewed by the courts, commissions, and legislative bodies at one time or another, and since the legislatures in the various states have been influenced in varying degrees by court decisions, the laws quite naturally are not uniform.

A good question to ask is—did the Smyth *v.* Ames decision[1] of the Supreme Court help or hinder the regulatory processes which were to develop later? The decision was quite vague and ambigu-

[1] Smyth *v.* Ames (1898) 169 US 466.

ous. Fair value meant present value. Though no formula was specifically set out as *the* basis for calculating the fair value of the utility's property, the Supreme Court listed six factors affecting "value":

1. Original cost of construction.
2. Costs of permanent improvements.
3. Amount and market value of bonds and stock outstanding.
4. The present cost compared to the original cost of construction.
5. The probable earnings of the utility under the particular rates established.
6. The amount required to meet operating expenses.

A QUICK glance at this list immediately indicates that original cost and present value concepts were intermingled, with the end result destined to be utter confusion through the following years. Indeed, the court went further by saying that there might be other matters to be regarded in estimating the value of the property. In effect, a free "hunting license" was issued by this decision.

Again, the court stated in 1923, in the Bluefield Water Works case, that "a public utility is entitled to such rates as will permit it to earn a return on the value of its property."[2]

During the first twenty-five to thirty years of the twentieth century, considerable dispute over the "value" of public utility properties for rate-making purposes was evidenced. Generally speaking, it was the value of the properties at the time a rate case was in progress, without regard as to the actual historical costs of the property. Such an investment base was subject to a great deal of controversy and was necessarily the result of independent engineering studies in most cases. This was both an expensive and time-consuming procedure, and was generally followed until the Natural Gas Pipeline Company Case in 1942 when the Federal Power Commission held that the commission was not bound to follow any formula. The Supreme Court upheld the rate-fixing order of the commission in that case saying:

The Constitution does not bind rate-

[2] Bluefield Water Works & Improv. Co. *v.* West Virginia Pub. Service Commission, 262 US 679, PUR1923D 11.

¶ "SINCE *World War II, public utilities have embarked upon a tremendous expansion in physical plant necessitated by the pent-up demand for service, plus the additional demands resulting from a higher standard of living. This investment has been made at high cost at the same time utilities are faced with increasingly higher costs of operation. As the rate of return on plant investment deteriorates due to increasing costs, the utilities are caught in a squeeze—how can additional investment funds be obtained from the public at a reasonable cost when earnings are lagging or trending downward?*"

making bodies to the service of any single formula or combination of formulas. Agencies to whom this legislative power has been delegated are free, within the ambit of their statutory authority, to make the pragmatic adjustments which may be called for by particular circumstances. Once a fair hearing has been given, proper findings made, and other statutory requirements satisfied, the courts cannot intervene in the absence of a clear showing that the limits of due process have been overstepped. If the commission's order, as applied to the facts before it and viewed in its entirety, produces no arbitrary result, our inquiry is at an end.[3]

SHORTLY after the Natural Gas Pipeline Company case in 1942, the celebrated Hope Natural Gas Company decision was handed down, shifting the controversy from rate base determination to the question of rate of return. In January, 1944, the U. S. Supreme Court issued the Hope decision, giving to regulatory bodies greater freedom in the determination of a reasonable return. No mention is made of "rate base," "valuation," or the "rate of return."

The court said:

> The rate-making process . . . involves a balancing of the investor and consumer interests . . . the investor interest has a legitimate concern with the financial integrity of the company whose rates are being regulated. From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock. . . . By that standard the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks. The return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital.[4]

SINCE this decision there has been a widespread movement by state regulatory commissions to use a net investment rate base which reflects the actual costs of the plant and facilities as recorded at the time when they were first devoted to public service, less the accrued depreciation or reserve.

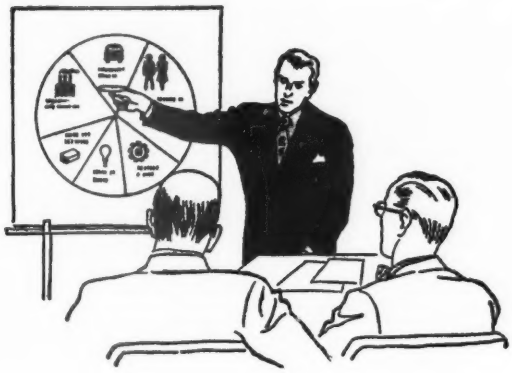
In 1953 the Virginia State Corporation Commission handed down its decision in the Virginia Electric & Power Company rate case.[5]

The concurring opinion of Commissioner Catterall considered the various mathematical calculations used by current regulatory commissions in arriving at the level of allowable earnings and proceeded to point out and stress the fact that, in reality, it is the end result—the total dollars of net income which a company is allowed to earn—that is of paramount importance, not the type of rate base or the rate of return. Though this theme has been commented upon by other commissions, and is supported by the Hope decision, this concurring decision is an extremely lucid review of the entire regula-

[3] Federal Power Commission *v.* Natural Gas Pipeline Co. of America (1942) 315 US 575, 586, 42 PUR NS 129, 138.

[4] Federal Power Commission *v.* Hope Nat. Gas Co. (1944) 320 US 591, 51 PUR NS 193, 200.

[5] Re Virginia Electric & Power Co. (1953) 9 PUR3d 225, 240.



What Is the Cost of Money?

"THE definition of 'cost of money' as generally set forth by financial experts is the price that must be paid to attract new money to a company under competitive market conditions, allowing for alternative investment opportunities, and differences in risk, and without the impairment of existing investment. Whereas some parties may say that this definition is equivalent to a 'fair rate of return' there are probably as many who would disagree. The 'cost of money,' in the final analysis, must admittedly be on the low side or near the so-called 'bare bones' cost of capital. The 'fair rate of return' then must be something more than the conventional cost of money."

tory approach. Commissioner Catterall summarizes his thought as follows:

> The reason I am against finding a rate base in cases like this one is that it is a waste of time and effort and involves endless arguments. When, after great trouble and expense, we have at last found the true, just, reasonable, and correct rate base, what do we do with it? We multiply it by a fraction in the form of a percentage. And how do we select that fraction? We pick the fraction which, multiplied by the rate base, will equal the number of dollars necessary to attract capital. We must know the final answer *before* we can select the fraction to be used as the rate of return. And once we know the final answer it is time to stop.[6]

As regulation proceeds in the future to dispense justice in setting the proper rate level, it is likely that this approach will gain in favor. If such be the case, the financial rather than the engineering aspects of regulation will become increasingly important. This trend is already ap-

[6] *Ibid.*, pp. 250, 251.

parent in the type of evidence being introduced in utility rate increase cases throughout the country. In almost every instance experts in the field of finance are brought in by commissions, applicants, and interested parties such as protestants, municipalities, and large customers or customer group representatives. Extensive exhibits, embodying a mass of financial statistics, are presented in an effort to aid in the determination of proper earnings level. Generally, comparative data showing the applicant's position as compared to other utilities are developed to measure relative performance standards.

II. Cost-of-money Considerations

HAVING briefly reviewed the historical background of the transitional concepts of "value" the discussion now turns to "cost of money."

The definition of "cost of money" as generally set forth by financial experts is the price that must be paid to attract new money to a company under competitive market conditions, allowing for alternative investment opportunities, and differences in risk, and without the impairment of existing investment. Whereas some parties may say that this definition is equivalent to a "fair rate of return" there are probably as many who would disagree. The "cost of money," in the final analysis, must admittedly be on the low side or near the so-called "bare bones" cost of capital. The "fair rate of return" then must be something more than the conventional cost of money.

It is assumed here, without argument, that the earnings-price ratio is the best measure of the cost of common stock equity funds. The pros and cons relating to the use of this ratio have been covered extensively by expert witnesses and in commission decisions.

The calculation of a precise historical cost of money for any utility is limited to two of the three capital components: long-term debt and preferred stock issues. The necessary inclusion of the cost of equity capital gives rise to major controversial opinions and the employment of extensive calculations in support of desired conclusions. The end result is inevitably a judgment figure.

BY weighting these percentage cost figures in proportion to the total capital structure, an over-all cost of capital for the company is obtained. In theory, this figure is the lowest which the regulatory body can safely use in determining the level of net earnings for a utility without risking the assertion that violation of constitutional rights is involved. It may be referred to as the "bare bones" cost of capital.

Regulation is concerned with these factors, in addition to its other duties of safeguarding the utility customer. If utilities cannot earn a "fair return" the cost of raising new funds to maintain adequate service and provide for the expansion of facilities will be so high that ultimately the result will be a deterioration in service to customers, higher rates, and in the end, perhaps, corporate insolvency or worse, the socialization of utility services.

Since this study is concerned with the effect of a type of regulation upon the equity cost of money for utilities, the current cost is measured. Historical or past year's results are not of particular importance as current market prices are

presumed to reflect the most recent regulatory trends and money market conditions generally.

COMMON stock investors reflect, in the current market price of a stock, their appraisal of the composite worth of factors which will affect their prospective reward in earnings, dividends, or capital gains. These factors are many and include such items as stability of earnings, return on investment compared with alternative investment opportunities, the degree of risk, economic growth characteristics of the service area, competition from publicly owned utilities or the threat of such competition, regulatory climate, and many others. The probability of a decline in economic activity in the service area or an adverse regulatory action is representative of the type of risk which must be considered, and, in the final analysis, it is the summation of the future expectations of all these factors which determines investor willingness to purchase the common stock of the utility. The use of the earnings-price ratio is considered an excellent indicator of this "summation of future expectations." Because of the simplicity of calculation and the fact that it excludes the side issues of yields and pay-out ratios which have presumably been reflected in the current price of the stock, the ratio has become extremely popular in rate case proceedings.

III. Specific Analysis of Equity Costs

UP to this point we have considered the historical concepts of value, the definition of cost of money, investor and regulatory requirements, and certain aspects of use of the earnings-price ratio.

TABLE I

SELECTED FINANCIAL STATISTICS FOR ORIGINAL COST AND FAIR VALUE GAS DISTRIBUTION UTILITIES

YEAR 1955

	Original Cost			*Fair Value*		
	Gas Only	*Combination*	*Total*	*Gas Only*	*Combination*	*Total*
Composite Financial Data (Thousands of Dollars)						
Net Revenue	$ 27,502	$ 330,769	$ 358,271	$ 20,235	$ 173,621	$ 193,856
Gross Income	28,195	334,014	362,209	20,412	176,776	197,188
Interest on Long-term Debt*	7,709	91,478	99,187	4,178	40,063	44,241
Net for Common	19,130	205,264	224,394	15,185	121,682	136,867
Long-term Debt	221,089	2,981,427	3,202,516	128,776	1,348,298	1,477,074
Equity	181,522	2,288,446	2,469,968	120,783	1,074,067	1,194,850
Total Capitalization	418,876	6,165,038	6,583,914	269,386	2,814,594	3,083,980
Net Plant	406,016	6,122,295	6,528,311	268,220	2,790,797	3,059,017
Composite Ratios (Simple Arithmetic Averages)						
% Return on Net Plant	6.74	5.54	6.00	8.09	6.33	6.77
% Return on Common Equity	10.88	9.29	9.90	13.55	12.02	12.40
% Debt of Total Capitalization	50.07	51.01	50.65	46.97	47.60	47.44
Times Interest Earned*	3.90	3.56	3.69	5.84	4.56	4.88
Interest as Per Cent of Debt*	3.57	3.12	3.29	3.11	3.02	3.04
Earnings-price Ratio in Per Cent	7.30	6.68	6.94	6.55	6.65	6.62
Price-earnings Ratio	13.93	14.96	14.57	15.57	15.22	15.31
Yield—Year End	5.30	4.91	5.05	4.81	4.59	4.65

*Adjusted to reflect full year at year-end capitalization.

We can now review the details of the study which was made to test investor awareness of regulation as reflected in the earnings-price ratio, based upon financial and operating results for 1955.

Since the stated problem involved two different regulatory approaches in the determination of allowable earnings, the first step was to list those states which adhere to the "original cost" methods and those states which give effect to the "fair value" concept in regulating these utilities. These states are listed from Moody's *Public Utility Manual.* Only those states which were listed as using either method specifically were considered. The factor of whether regulation was centered at the local or state level was not considered important; attention was focused only on the type of regulation—that is, whether one method or the other was favored or required by law. Generally, the local regulatory bodies follow the statewide regulatory methods.

Utilities were selected which were found to operate primarily within one state, or if in more than a single state, subject to a similar type of regulation in both states.

THE second step was the identification of natural gas utilities which were primarily distribution companies, contrasted with those which produced or transported gas for themselves or others. Another group of utilities serving electric or water service in addition to gas were included as "combination companies." These utilities had gas revenues varying up to 55 per cent of their totals. A limitation of a minimum $10 million in plant investment as of the end of 1955 was arbitrarily established. All companies were required to have common stock available for public investment and available for trading on the stock exchange or over-the-counter markets. No major holding companies were included. The basis of selection of test companies resulted in narrowing the size of the sample.

Since the type of regulation was a major concern, consideration of the relative size of the utility, its customers' characteristics and source of revenues by class of service, was dismissed. There were 41 companies in all which met these requirements. Twenty were operating in fair value states and 21 in original cost states.

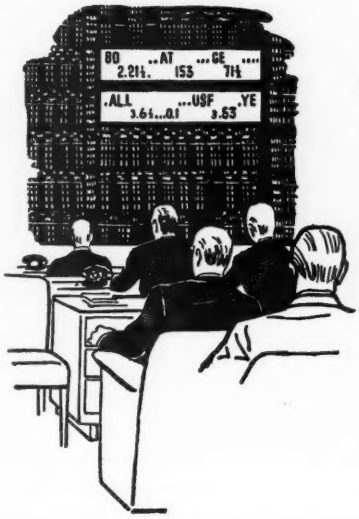
In the determination of the earnings-price ratio, the "spot price" method was used. The advantage of the spot price method is that in addition to its simplicity of calculation it tends to eliminate the influence of any wide fluctuations in the over-all security market during a 12-month period which an "average" type calculation might reflect if such a fluctuation occurred briefly at the beginning or end of the period. Also, the spot price method presumes for comparative purposes that all utility stocks would at the same approximate time reflect current market conditions.

THUS, for the computation of the earnings-price ratio the closing quotation for the common stock at the end of the year was taken and divided into the earnings per share, the latter based upon the number of shares outstanding at the end of the year. The only adjustment to recorded figures was in those cases where additional debt was issued during the year.

Interest was adjusted to a full-year basis in order that the times interest

Using the Earning-price Ratio

"THE writer does not advocate the use of an earnings-price ratio approach to the cost-of-equity capital problem to the exclusion of other factors which may be of equal importance. However, since it is one of the ratios which intelligent investors normally calculate and review prior to making an investment in utility common stocks, it appears that it should be a fair indication of their assessment of regulatory concepts. It is likely that investor attitudes as measured by the earnings-price ratio may change from time to time."



earned calculation would reflect the additional future obligation.

Ratios deemed pertinent to the study were:

1. Return on net plant investment.
2. Return on common stock equity.
3. Per cent debt of total capitalization.
4. Times interest earned.
5. Interest cost as a per cent of debt.
6. Earnings-price ratio in per cent.
7. Price-earnings ratio.
8. Yield.

In grouping the results for comparative purposes a simple arithmetic average of the ratios was developed. If weighted averages had been calculated the result would have given undue weight to the size of the companies included in the sample. Though this latter method of calculation is reasonable for use in measuring results for the industry as a whole, it is thought not proper if a measure of the qualitative aspects of regulation is desired.

The size of companies operating in one jurisdiction *versus* another would weight the results in a distorted manner.

THE results for the test companies are shown in summary form in Table I, page 79. The data are segregated between original cost and fair value jurisdiction, and further, by type of utility operation; *i.e.*, gas companies, combination companies, and the total for all companies.

The earnings-price ratios for fair value utilities are lower than the original cost utilities, particularly for the straight gas distribution companies.

	Earnings-price Ratio	
	Original Cost States	*Fair Value States*
Gas Companies	7.30%	6.55%
Combination Companies ...	6.68%	6.65%
Total All Companies	6.94%	6.62%

These results are indicative of a lower cost of equity capital for utilities operating under the fair value standard of regulation.

Other ratios are summarized in Table I and appear to indicate overall favorable results for the fair value utilities over the original cost utilities.

In each of the following instances the results for fair value utilities were shown to be more favorable than for original cost utilities:

1. The percentage return on net plant investment, represented by the dollars of net revenue, was considerably higher—more than 10 per cent higher.

2. The percentage return on common stock equity was even greater, exceeding the return by original cost utilities by more than 20 per cent.

3. Long-term debt as a percentage of total capitalization was less, affording the companies greater flexibility in future financing at a possible lesser cost.

4. Interest coverage for fair value utilities was a third greater.

5. Interest cost on long-term debt was lower.

6. Earnings-price ratios were considerably lower, for the gas utilities in particular, though there was little difference between the combination companies in original cost and fair value jurisdiction.

7. Naturally, the complementary price-earnings ratios indicated a larger multiplier for the fair value utilities.

8. Yields on fair value utility stocks were somewhat lower, which can normally be expected for stocks which sell at a higher multiplier.

IV. Comments on Use of Earnings-price Ratios

The use of earnings-price ratios assumes that utility investors are buying the future earnings of the company and the market price they are willing to pay reflects all the various factors which are deemed relevant, such as growth, capitalization, service characteristics, competitive aspects, etc.

The Federal Communications Commission stated:

> The ratio of dividends and earnings to the market price of common stock may serve as an indication of the current cost of equity capital. Since the entire return above fixed obligations and preferred stock requirements belongs to the common stockholder, and since the available earnings are the measure of the ability of the company to pay dividends either currently or in the future, the earnings-price ratio is regarded as more significant than the dividends-price ratio. In determining the prices they are willing to pay, investors take into consideration the dividend policies of corporations and the proportion of earnings paid out in dividends.
>
> . . . It also appears that earnings are more closely related to credit maintenance than are dividends. . . . It does not follow that dividend payments have no bearing on credit, but rather that the effect is apparently subordinate to that of earnings. . . . In any event, however, it seems generally to be conceded that the long-run average earnings-price ratio more accurately than any other single factor, reflects the investor's composite evaluation of all funda-

mental influences affecting the corporation.[7]

THE financial analyst for a commission advocating the use of the original or historical cost concept in rate making has criticized the exclusive use of the earnings-price ratio as the determinant of the equity cost of capital, suggesting the following reasons:

1. Since the ratio is predicated on the current price of the stock, the use of a present-day rate base is required.

2. Market prices reflect expectancy of future earnings so that the relation of such prices to past earnings is not significant in a rate inquiry.

3. Such market prices are based upon the individual investor's appraisal and may be influenced by his own requirements for income or for capital gain. Therefore, there is no relation to the required return on investment in property.

4. Reliance on the ratio gives a restricted view on the subject of return on investment.

5. Earnings-price ratios serve as a background only and, in themselves, are not conclusive.

It is quite possible that some of these points are valid. However, as previously stated, it is not our purpose to argue the assumption that this ratio is a correct measure of common equity capital costs.

The statistical data appear to point up adequately the fact that the investing public is aware of the basic difference in the regulatory methods used in setting the level of utility rates and, accordingly, the allowable net earnings. The lower earnings-price ratios for the fair value utilities summarized herein clearly indicate that the cost of equity capital is less under this type of regulation.

THE writer does not advocate the use of an earnings-price ratio approach to the cost-of-equity capital problem to the exclusion of other factors which may be of equal importance. However, since it is one of the ratios which intelligent investors normally calculate and review prior to making an investment in utility common stocks, it appears that it should be a fair indication of their assessment of regulatory concepts. It is likely that investor attitudes as measured by the earnings-price ratio may change from time to time.

At this point the writer is impelled to conclude this discussion with a clause similar to that found in many security analyst fact sheets and state that "this report contains only selected factors, and does not purport to be a complete presentation of all data available and is not to be construed as a recommendation to buy or sell any security of a utility because of its operating in one type of regulatory jurisdiction *versus* another."

Nevertheless, the general conclusion of this study is that under the conditions of rising capital cost now being experienced, utilities in fair value states will find easier access to capital markets at a lower average cost than will those under original cost regulation.

[7] U. S. Federal Communications Commission, *The Problem of the Rate of Return in Public Utility Regulation with Special Reference to the Long Lines Department of the American Telephone and Telegraph Company* (1938) U. S. Federal Communications Commission, pp. 75, 76.

Answering Automation's Biggest Question

This article takes up the question of whether persons dislocated by mechanization are able to find new jobs comparable with the ones displaced by automation. So far not much following up has been done to see what happens with jobs and people under this condition. This would appear to be a fertile new field for public and employee relations development.

By JAMES H. COLLINS*

For a word that was coined yesterday, and has hardly got into the dictionaries, *automation* is raising anxious questions, prompting official investigations, and worrying millions of people on payrolls who want to know what this brave new world of electronic offices and push-button factories is going to do to their jobs.

Reassuring answers are being given by economists, businessmen, investigators, and specialists, who point out that this is just part of the industrial revolution; that machinery has always created more jobs than it abolished; that steadily through our own history more and more people have been employed as mechanism did away with drudging, boring work; that our employment statistics today show a growing shortage of workers; that if we had to go back to the equipment and methods of only a few years ago, we could not find enough men to dig a trench, or enough girls to run a switchboard, and could not afford to pay them even at the wages of yesterday; that a large proportion of the jobs men and women hold today were unknown a dozen years ago.

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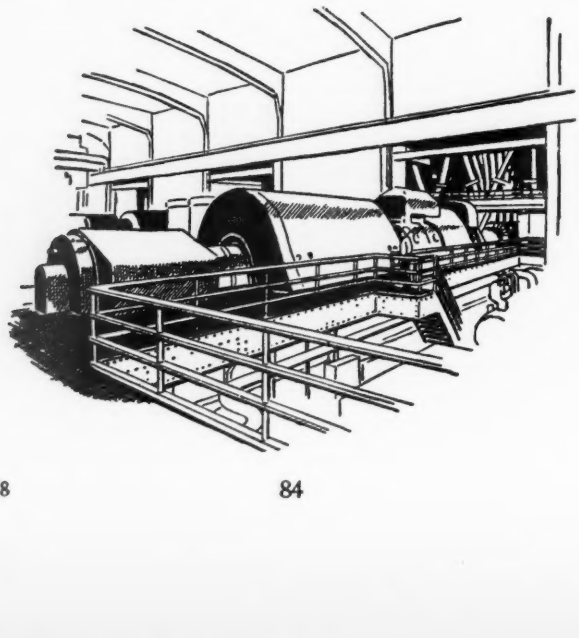


None of which any American jobholder disputes. That is part of our national creed, as basic as two and two.

But one question is not being answered: "What is automation going to do to *my* job?"

IT is all very well for the factory or office employee to put his trust in the national economy, to feel that no matter what changes come, there will always be more jobs, more interesting ones, better paid.

But will he personally be able to land one of them?

Picture him as an average fellow in ability, a private in the ranks that make up the regiments and army corps of industry, having gone with his company on leaving school, with education and energy enough to do well a special kind of work, even become a supervisor, gaining experience, arranging his life and his family's future on his job lasting until retirement, that his company will always need him, or find a place for him.

Suddenly his job is taken over by automation. The new jobs created by this change call for different kinds of ability, different education. They may be in other industries. He is nearing or maybe past forty. How is he to acquire the new education? Where will he stand in the hiring line with the keen youngsters now coming out of school?

His question does not seem to be answered out of industrial history, or general statistics. It is a very personal question, and a worry, and calls for a personal answer in terms of his job and life.

IT may be that business itself has the answer, if it will explore in overlooked directions. It may be that for the alert public and employee relations fellows in utilities and other business an interesting new field is opening up.

There was a time in science when the scientist was a "philosopher," and argued with other philosophers as to what was the nature of things. Ben Franklin was a philosopher of that kind, and instead of arguing, flew the kite, and found that the nature of electricity was something quite different from the beliefs developed by argument.

There was a time when alchemy had passed into "chymistry," and its research was mainly argument as to what would happen if This was put into That. Von Liebig put them together to see what happened, and found there was plenty happening, and quite different.

Along the same experimental lines there may be much to discover in automation.

ONE utility business has good answers, and a field of exploration that should prove fruitful in answers, for its own purposes, and for other industries, and even for the national well-being.

That is telephony, where automation has been actively applied long before it was given its present name. From days before dialing, telephony has been doing people out of jobs, yet always hiring more people. It has long been a boast that automatic progress never did any competent telephone employee out of a job. When the particular job was pulled out from under him or her, the company always trained them for some other kind of work.

"As long as I do my job, the company will always have a job for me until I reach retirement," is the common feeling

among telephone people, and they often add that the company always finds interesting new jobs.

No phone employee magazine ever goes to press without little personal sketches of people retiring, covering their length of service, their careers in various jobs, and often stories of their advancement from simple jobs to supervisory or executive positions.

This is also true of power and gas company employee magazines.

Automation has never been a worry for telephone people because, from the earliest days, when boys were tried on switchboards, telephone hiring was different from that of other industry. Those were the days when, in other lines, men were hired for trades, as machinists, carpenters, sheet metal workers, and the foreman, going to the factory gate, picked out immigrants for the unskilled jobs according to their muscle.

TELEPHONY could use none of the common trades, even electricians had to learn the work on the job, and so the company recruited a kind of people who were a step above average in intelligence and manners. For operators, it opened up a new field of employment for women, hiring home girls, "nice" girls who might never have gone out to work, who had at that time chiefly teaching as a career. They were trained on switchboards, the voice-with-the-smile in course of development. It took weeks of practice before one of these nice girls was seasoned to the rough-and-ready give-and-take of actual traffic. Enough of them stayed, or came back after marriage, to provide supervisors, who in turn were given special training.

From those days, telephony has been honeycombed with classes, courses, schools, teaching everything from pole climbing to electrical theory for women, and with students ranging from the new ex-GI who is beginning in a field crew, to advanced engineering and research.

TYPICAL of training methods and policy is this description of a new employee school recently established near Harrisburg, published in a Pennsylvania Bell employee magazine:

The company had several schools at different places, teaching employees various subjects as training for jobs, or promotion. These were brought together in a specially designed school building, air-conditioned, and equipped according to requirements found essential by instructors.

¶ "FOR *a word that was coined yesterday, and has hardly got into the dictionaries,* AUTOMATION *is raising anxious questions, prompting official investigations, and worrying millions of people on payrolls who want to know what this brave new world of electronic offices and push-button factories is going to do to their jobs. Reassuring answers are being given by economists, businessmen, investigators, and specialists, who point out that this is just part of the industrial revolution . . .*"

For a particular class, it might facilitate teaching to display circuits, tools, parts, materials. Peg boards on the wall, like blackboards, made it easy to set up and take down such displays. For large pieces of equipment that might have to be brought into classrooms, doors were designed to open in line. A typical minor subject taught for a limited number of jobs is the detection of dangerous gases in manholes. Various detection devices are demonstrated, and the hazardous nature of explosive gases is demonstrated by setting off actual explosions in a miniature manhole.

This school has twenty-seven instructors, trains about 1,600 people yearly, in courses that take from five days to four weeks. The general areas covered are installation, repair, plant, operation, construction, testing, and so on, to serve different divisions of the company. The plant department alone has 74 different courses. There are no tuition fees, of course, and as employees have to spend time away from home, the company pays their expenses while at school.

In the telephone business nobody ever gets out of school. Job education is like telephone research, constantly exploring the frontiers of the unknown in human abilities, and in the application of new knowledge and methods to jobs. For an idea, Western Electric has recently sent young engineers to three different universities for advanced education in subjects pertaining to human relations, which are becoming of increasing importance in business today. Included is "the communication of ideas," which is being found vital in the management of engineering business.

These employee training activities have not been publicized outside of telephone organizations, for the information of employees, and few employees have any idea how extensive they are. The young high school graduate who qualifies for an operator's job, and showing ability in supervisory or administrative work, may be sent to school for a basic course in electrical theory. An ex-GI who has stood out in field work, may be tapped for an engineering course.

Today, automation has given the public an interest in such job training, especially among worried jobholders, who are watching the trends and trying to figure out what happens if their own jobs are improved out of existence. The telephone business is undoubtedly tops in management of this problem, and an example of what is possible in job conservation.

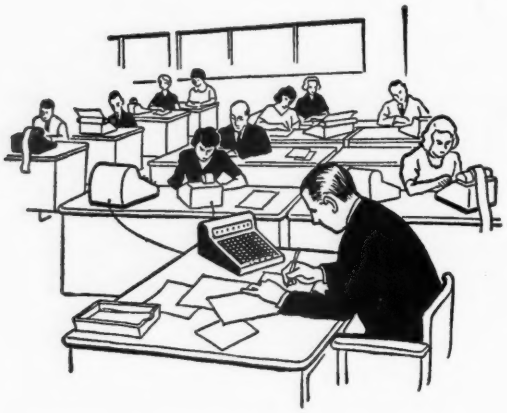
Two recent telephone automations are of wide general interest because subscribers as well as employees are affected, and the public has asked, "What becomes of the people displaced by automatic equipment?"

Regional toll calls that used to be billed separately, from written tabs, are now lumped in "message units," by machines that punch records, and translate them for billing.

"What will become of all these girls?" asked a visitor going through an automatic billing department.

"Don't worry!" said his guide. "They are only here while the change is being made, we had to gather them from far and near, and next week you won't find one of them here—they will all go to new jobs for which the've been in training."

From the standpoint of thousands of operators writing mountains of toll



Making the Job Seek the Man

"WHILE job qualifications are punched on cards, and put through a sorting machine to find applicants who appear to fit the requirements, Uncle Sam's employment specialists insist that they are not working toward a cold, classless society, but using their technique to help with difficult placements, and job seekers with little working experience, or uncertain about their future. These classifications may enable an employer to locate an exceptional man or woman, and a job seeker to land, not merely a job, but a career."

tabs, and office workers billing them, to be trained for more interesting work is a welcome advancement. The public might like to know about it.

DIRECT distance dialing is presently going to require telephone subscribers to learn new habits, and also displace a highly skilled kind of operator, the distance girl who, in her way, is as specialized as, say, a precision machinist—he deals with metal and dimensions, she deals with people and complex connections. Her job changes are manifestly of interest to thousands of people likely to be affected by changes in their own work.

While other utilities, power and gas, do not employ the numbers of people needed in telephony, it is true that many of their jobs are filled by people hired without experience, trained for the particular type of work, and retrained as they are affected by mechanization. Many a company release describing new stations and services would gain reader interest by an account of job changes involved, and what is happening to the jobholders.

On the principle that the public has always had a mild interest in what becomes of old pins, chorus girls, trolley cars, circus clowns, horses—anything apparently disappearing into limbo.

ANSWERING AUTOMATION'S BIGGEST QUESTION

THE word automation got into common speech with the opening of the Ford automatic engine plant, in Cleveland. Practically everbody understands an auto engine as a complicated piece of mechanism that turns gasoline into power at the finger tips, made up of precision parts that require expert machining and assembling. This automatic plant was described as turning out complete engines without human hands, and more than human precision.

Nothing was said about jobs. None were abolished, evidently because the plant started new, and nobody was displaced. Did it displace auto workers elsewhere, or make new jobs by increasing production, cutting costs? What effects would it have on hundreds of other factories making auto parts?

If explored for answers, such questions would undoubtedly have developed information interesting to jobholders and the general public. Perhaps reassuring answers. Such a plant must produce in the whole economy something like the infinitely spreading circles made by a stone thrown into a lake. But it went into production in an industry which has not required company-trained people, like telephony. Its hirees have always been men with trades, taken out of an enormous pool, and dropped back in the pool with fluctuations in employment. That management should follow up individual workers, for effects upon their jobs and lives with changes in production methods, was not thought of. That was the kind of business it was, and like a majority of businesses.

FIVE years after the Ford plant went into production it was obsolete. Engineers and machine builders had meanwhile been improving the equipment so radically that it paid to put in a completely new plant. And unless machine designers stop research and experiment, it is certain that they will render that latest-improved plant obsolete.

This kind of obsolescence is common in American industry, and suggests other lines of inquiry that might be followed with interesting results.

How many people were employed in maintenance of the original plant in those five years, and what kinds of jobs did they hold, at what pay, and how would a young fellow coming out of high school qualify for such jobs?

Would it be possible for a displaced machinist or assembler to qualify—have any of them actually done it?

How many people were employed, and in what kinds of jobs, in the research, designing, and building of the new plant, and its maintenance?

JOB changes make spreading circles of opportunity as well as displacement. An individual jobholder cannot follow them. But jobholders everywhere are vitally interested in the new opportunities being developed. Individual companies might get the over-all picture in their own employment, as employee and public relations.

In recent years, automobile and other companies have published pictures of employees who have given long service, or who do some special kind of work, or are father and son working for the same company—even grandson. This indicates a trend toward humanizing large concerns. Exploring the changing job picture, pointing out new opportunities, could be of the

same nature. If there are no opportunities in a particular line of employment, then following up the spreading circles is something for governmental investigation and statistics.

SINCE the early days of the New Deal a job has become a formidable thing. For the employer, it is only necessary to look at the accounting involved for every person put on the payroll, and the various negotiations, benefits, and "relations" that have come into existence the past generation. For the fellow who lands a job the complications are even greater, and the hazards of losing it may well set him worrying.

Thirty years ago the phrase "take home pay" was unknown. Over in England they had something called the "dole," which was generally regarded as government sop, and not anything that would ever come in this country. When Social Security was heard of, the idea of every American being assigned a number was resented, as an indignity imposed by That Man in Washington.

Such changes are more quickly effected than is thought, for the young people coming up accept a number, and presently it is tattooed on their arms, the oldsters forget or pass away. With payroll deductions for Social Security and unemployment, the American jobholder understood the Britisher's "dole" as something that he had partly paid for out of his "pay packet," not a government charity.

Deductions, deductions! Hardly anybody on a payroll today remembers the time when a dollar was a full hundred cents, to be taken home intact—if the corner saloon was passed. Today, something is taken out and accounted for to meet income taxes, group and health insurance, payments on government bonds or other forms of saving, and the simplicity of deductions has led to various benevolent causes taking something out.

The fellow with a pay check today is something like the kid going to the store with a nickel to spend, accompanied by other kids who remind him that they have always been his pals.

A JOB today is a formidable thing to hunt for and maybe land. There are hiring tests, and sometimes security screenings. Educational requirements may call for a high school education, or even a Bachelor's degree. Labor organizations complicate the finding and holding of a job, and age limits are becoming more and more restrictive—a jobholder's career begins at twenty and is over at forty. Employers count the costs of hiring and breaking in a new employee in hundreds

¶ *"A JOB today is a formidable thing to hunt for and maybe land. There are hiring tests, and sometimes security screenings. Educational requirements may call for a high school education, or even a Bachelor's degree. Labor organizations complicate the finding and holding of a job, and age limits are becoming more and more restrictive—a jobholder's career begins at twenty and is over at forty."*

of dollars, which is an expense borne by a company. Nobody counts the time and expense involved by the job seeker in hunting a job, which comes out of his own pocket. Nobody counts the anxiety and wasted time.

ONCE landed, and on the payroll, the jobholder can organize a life with some confidence, marrying, having children, buying a car, a home, the other things necessary to the living standard of his income. He pays instalments, accumulates credits for promotion and retirement, relies upon the company for his future.

Suddenly, this future may be shattered by changes in production, not automation alone, but obsolescence of products, shifts in fashion and market demand. New managements may come in and make radical changes in personnel. Management may be ousted by proxy tactics. The company may be merged with others that dominate it.

Plants are closed because obsolete, and more efficient ones are located elsewhere for advantages in production, marketing, taxes, and what not. Business failures throw people out of work, and the utter closing down of concerns that, until lately, have been prosperous, as has happened lately, has the effect of a tornado on employment of whole communities. Changes in defense production, either by shifts in weapons, or the reduction of government appropriations, may cut off the pay checks upon which jobholders, and whole communities, have built everything.

The strain and stress of present-day working conditions are indicated by the millions of wives who are working outside the home, and by men who hold two jobs of some kind.

A job has become such a formidable thing to the jobholder that his anxiety over what automation may do to him creates a wide interest in what it is doing to jobs everywhere.

AUTOMATION seems to be thought of in connection with large companies and major industries. It is a general modernization of all industry, part of the growth of America, so explosive since war's end. Investigating it in the light of national growth might make it more understandable, less frightening to jobholders.

Who thinks of farmers turning to automation? They are finding it necessary to adopt automatic methods for their marketing associations, in preparing their products for sale, and also in manufacturing some of the materials they use.

For example, a generation ago California walnut growers sold their crop to produce buyers, about as they came from the trees. There were many complaints of low prices, so the growers formed a co-operative marketing association, and set up a warehouse to which the nuts were brought, to be sold for their account. It was soon discovered that walnuts could be made more attractive to the consumer, and demand increased through merchandising by the retail trade. Machinery was developed for separating the nuts with light meats, sandblasting the shells of those to be sold for home cracking, stamping an association brand on each nut, and putting up various grades of walnut meats for the housewife, the baker, and confectioner. Consumer and trade advertising was done to increase demand, and to the grower, walnuts became a different crop, with a better market, and a good profit.

Educational Adjustment to Job Change

"If automation can be understood as the advancing technology of the country, it might be dealt with more rationally. Business and education have work cut out for them in helping the individual adjust to employment changes, and jobholders will understand that when jobs change, they will be called upon to change, too, by learning other techniques. Where once a trade or a skill in a particular kind of work could last a lifetime, today our kaleidoscopic economy seems to be headed toward half a dozen or more different kinds of work to make a life. Undoubtedly, there will be great changes in education, not only for the top people needed in engineering and management, but for the millions of Joe Doakes who cannot qualify for such schooling, yet will need schooling to fit them for the lower level jobs in which they will be needed."

As the business grew, the association built four packing plants in Los Angeles, in the industrial districts, where costs were high, and further expansion was impossible. Machinery and packing methods had been rendered obsolete by developments of better equipment. The walnut farmers did what the Ford Company had done in Cleveland—scrapped their four packing plants and built a new consolidated one elsewhere. They chose Stockton as a point more central to the growers, adopted bulk handling for a million bags of nuts a year, with palleting and fork trucks, air separation of light nuts, refrigerated storage—walnuts "burn" in heat—and more efficient packaging machines for putting up meats and shell nuts. This plant cost $8 million, but will pay for itself with savings in operation in about five years.

There were 3,000 workers in the old

packing plants. Some 700 are enough and do more work in the new plant. The association arranged for the moving and settlement in Stockton of supervisory employees and those with special skills. The jobs displaced were mostly seasonal and semiskilled.

While it is different in each industry, and company, automation is always brought about by growth, either by the expansion of the economy, or by inventiveness and research developing new machinery, or both.

Investigating and explaining it from this standpoint of growth could take the "Devil" out of automation, make it more reasonable, encourage an attitude of adaptation to it.

THIS is a big country, as its surprising economy has shown from pioneer days, but bigness has always been under suspicion. Bigness has been like sin, in the Calvin Coolidge story. The President, coming from church, was asked what the sermon had been about. "Sin," he replied. When asked what the minister had to say about it, Coolidge said, "He was against it."

Bigness has been feared, curbed, and personalized, yet has persisted like sin. Automation is such a devil today. There are many definitions of it, and explanations, but to the jobholder it stands for the old enemy, bigness, using its money and power against people, through mechanism.

Once upon a time this country had a demon of bigness personalized in the "trusts."

Oil was then the outstanding industry for size. Measured by today, it was a teapot refinery business, making simple products like kerosene for lamps, and gasoline for stoves. But the country was growing, oil grew with it, small people were put out of business, large concerns profited by railroad rebates. Finally, oil was hauled into court; Standard Oil was split up into smaller corporations, perhaps with the feeling that small concerns could better deal with them. Some rebaters were found guilty, and Judge Kenesaw Landis imposed a $29 million fine upon them, and it was felt that the country had been made safe against bigness.

But in Detroit there was a little fellow tinkering with a gasoline buggy, hampered by insufficient capital, and by a questionable patent that had been taken out on such vehicles before one had ever been built. Henry Ford won out, put the country on rubber tires, and what the oil industry became then requires no comment. The "trusts" had nothing to do with it. Becoming a national figure by the imposition of such a whopping fine on bigness, Judge Landis became the "czar" of another American industry growing big—baseball.

IF automation can be understood as the advancing technology of the country, it might be dealt with more rationally.

Business and education have work cut out for them in helping the individual adjust to employment changes, and jobholders will understand that when jobs change, they will be called upon to change, too, by learning other techniques. Where once a trade or a skill in a particular kind of work could last a lifetime, today our kaleidoscopic economy seems to be headed toward half a dozen or more different kinds of work to make a life. Undoubtedly, there will be great changes in educa-

tion, not only for the top people needed in engineering and management, but for the millions of Joe Doakes who cannot qualify for such schooling, yet will need schooling to fit them for the lower level jobs in which they will be needed.

Something that points in this direction has been developed by the United States Employment Service, which places several million people yearly through its 1,700 employment offices—many of them people displaced by new techniques like "automation." The idea is still under development, and there are different viewpoints on it, some critics maintaining that it "types" the job seeker, and others that it reveals abilities valuable to an employer as well as himself. A handbook describes the procedure used on some 4,000 kinds of jobs, out of the 23,500 described in the standard "Dictionary of Occupational Titles."[1]

THE jobs "profiled" are chiefly trades, machine work, carpentering, wood turning, and the like. It is assumed that the employer who applies for a carpenter, and who interviews a workman classified merely by his trade, may find a satisfactory employee in a wood turner or even a machinist. The carpenters, machinists, and other trade workers are therefore interviewed and tested for general abilities which, when the employer knows them, may make it possible for him to fit them into other jobs.

The classification covers physical fitness for the work—strength, sight, hearing, ability to stoop, kneel, climb, balance, and handle things. Another classification is in working conditions—whether the job seeker can work outside, stand noise, vibration, cold, heat, fumes, and odors.

Other classifications go into education, intelligence, manual dexterity, motor coordination, and characteristics disclosed through aptitude tests. And interviews, while on a "one-shot" basis, uncover values that have become important in gauging supervisory and executive hirees, but have not been thought of as something an out-of-work mechanic might have to sell.

How does the mechanic act under stress —keep his head, take charge, take steps to protect people or property, or just get rattled? How does he deal with people? What does he read, what are his hobbies, what organizations does he belong to? What planning ability does he manifest, what are his general interests, ideas, social attitudes?

Hiring a carpenter whose inventory lists experience in taking instructions, following detailed plans, getting along with people, meeting emergencies, and shouldering responsibility, could lead to the finding of an excellent supervisor, or trouble shooter, or maintenance man.

AS these values are becoming of increasing importance in the consideration of higher-ups, so they are important in discovering and developing the kind of people that will be needed in the new world of automation, where more intricate machinery is to be designed and maintained. Also in selling and other relations growing out of the service jobs.

For an example, suppose telephone installers were being hired from the employment service, and an applicant with experience in that work came to the personnel

[1] "Estimates of Worker Trait Requirements," Superintendent of Documents, Washington 25, D. C. Price, $2.25. Comment by *Business Week*, June 29, 1957, page 144.

department. He might be put on the payroll as an installer, and do very well until the company began selling color phones. If he was just a good installer, but taciturn, not considerate of people in the homes he visited, he would not be a good man for the new selling job involved, and might be assigned to the installation crew in some large plant, which never goes outside to work, and has no customer contacts. But if his qualifications included temperamental traits pointing to sales ability, he could be considered for a different kind of work.

WHILE job qualifications are punched on cards, and put through a sorting machine to find applicants who appear to fit the requirements, Uncle Sam's employment specialists insist that they are not working toward a cold, classless society, but using their technique to help with difficult placements, and job seekers with little working experience, or uncertain about their future. These classifications may enable an employer to locate an exceptional man or woman, and a job seeker to land, not merely a job, but a career.

"If automation comes in my work, what on earth will I have to sell?" is the worry behind the unanswered automation question.

Business undoubtedly is going to have to find out.

The Bright Future

"IF there is not to be another world war—and I personally do not believe there will be—then you are going to live in the most exciting and rewarding period in the whole history of the human race.

"A tremendous social revolution is going on in this country. It has already accomplished something that mankind has dreamed about for centuries—it has almost abolished poverty. Nobody is in desperate want of food or clothes or shelter. This is something that has never been true in any country in any century in human history.

"And it is only the beginning. We are just on the threshold of the age of automation. What its full import will be we can only vaguely imagine. But we know that it will vastly increase the productivity of every worker, and automatically increase his right to participation in the value of the product. And side by side with automation is coming the atomic age.

"This bright new world, with its expanding birth rate, will mean that our whole country will have to be replanned and rebuilt. Our horse-and-buggy cities will need to be transformed into automobile and truck cities. Our highways will need to be quadrupled again and again. Our schools, colleges, hospitals—all our public services —will need the transforming power of daring imaginations."

—BRUCE BARTON,
Chairman of the board, Batten, Barton, Durstine & Osborn, Inc.

Utility Industrial Development Programs

PART I.

A survey of utility company practices in connection with attracting or improving industrial developments in their respective service areas. The returns from this survey were so varied and noteworthy that a three-part article was found necessary to avoid cutting short much of the interesting factual material.

By C. E. WRIGHT*

DURING the past few years the Philadelphia Electric Company has been running a series of full-page, four-color advertisements in *The Saturday Evening Post* (at upward of $30,000 a page) and in other publications setting forth the advantages of the Philadelphia area for new or relocating industries.

These strikingly beautiful advertisements might be said to represent the apex of industrial development programs of electric and gas utilities that have grown by leaps and bounds within the past few years, especially since the industrial dispersion policy was enunciated as a defense measure in the Truman administration.

In its advertising, the Philadelphia Electric Company has stressed such appeals as "If you want access to a rich market locate in Greater Philadelphia" or "Diversification is good for business and business is good in Greater Philadelphia," while a more recent one, illustrating the great architectural changes taking place in the city's downtown area, says "The boom

* Free-lance writer, resident in Jacksonville, Florida. For additional personal note, see "Pages with the Editors."

in Delaware valley echoes on every street in Philadelphia."

WHAT the Philadelphia Electric Company is saying about its own service area many other utility companies are also saying in different wordage about their own territories. The foregoing comments about Philadelphia Electric's outstanding program are merely to illustrate a trend among utility companies that has become more and more noticeable in the recent past, even though industrial development work by utilities dates back at least twenty-five years, and in some cases longer. Its real impetus has come during the industrial boom of the 1950's. Now almost every issue of such business and news publications as *The Wall Street Journal, The New York Times, Business Week, Newsweek, U. S. News & World Report,* and others contain one or more advertisements of utility companies seeking industrial prospects for their areas.

In an area development survey conducted a little over a year ago, the Edison Electric Institute found that out of 50 electric companies about half had been operating industrial development programs less than ten years, while more than a dozen had been in the field for five years or less. Yet 13 companies reported they have had some activity in industrial development programs for periods ranging from twenty to forty-two years. In its early stages industrial development was often a part of a sales department's activities or closely associated with general community development. Today most of the companies that have gone headlong into development programs have a complete separation of industrial development and community development. The industrial field, which requires a somewhat different approach and training, has become highly specialized.

WHILE other business groups, notably banks and railroads, have long been aggressive promoters of increased industrialization of their areas, it is obvious to anyone who checks the advertising of national media that the utility companies are well in the lead in such promotion. They might be said to be running neck and neck with state and local development boards and commissions, with which the utilities naturally work in close co-operation.

Utility companies that have engaged aggressively in industrial promotion recognize that the utility is particularly well suited to be a leader in such endeavor. As R. L. DeChant, manager of the area development department of the Cleveland Electric Illuminating Company, puts it, "We feel that the electric utility is particularly well suited to do industrial development work. This reasoning stems from the fact that we have a selfish motive in such an operation. Ours is a volume industry. Our growth is limited by the territory we serve and therefore we must maximize our profits by proper utilization of all of the lands in our territory."

EXPRESSING much the same idea a little differently, Andrew H. Hines, Jr., director of the industrial development department of the Florida Power Corporation, says:

> The utility . . . constitutes in one source of information the answers to many problems. The utility is usually equipped with a staff having experience and background in industrial problems

and this staff can better service a prospect than can smaller groups such as small chamber of commerce staffs which must carry out all sorts of other activities. In addition, the utility usually covers a wide service area and can thus recommend a site to the prospect which generally fits his needs. A utility is not usually tied to a single community or single area within a state but rather has a wide variety of sites and communities within its service area. It is thus able to be, in large measure, impartial and is able to work for the best interests of the prospective industry.

Or, as another utility man expressed it, "You cannot take out of a community without putting something back in. When we bring in a new industry we not only help one of our communities but ourselves at the same time."

This philosophy of service to the community runs through all comments from utility companies as to why they have engaged so actively in industrial development work.

Among the electric and gas companies which have been consistent national advertisers in the recent past are the American Gas & Electric Company, Baltimore Gas & Electric Company, Cleveland Electric Illuminating Company, Consumers Power Company, Commonwealth Natural Gas Corporation, Columbia Gas System, Georgia Power Company, Niagara Mohawk Power Corporation, Ohio Edison system, Pacific Power & Light Company, Public Service Electric & Gas Company, Piedmont Natural Gas Company, Southern California Edison Company, Southern Company, Texas Gas Transmission, Union Electric Company, United Gas Corporation, Utah Power & Light Company, Virginia Electric & Power Company, West Penn Electric system, Western Massachusetts Electric Company.

Most of these companies concede that, while national advertising may be important in developing prospects, it does only part of the job. Behind-the-scenes activities are equally important and sometimes of greater effectiveness. A good many utility companies do little or no national advertising, yet they have been able to assist greatly in the industrial development of their areas.

A case in point is the remarkable industrial evolution of the lower Mississippi valley from Baton Rouge to New Orleans, where hundreds of millions have been spent in the past several years for chemical, aluminum, and other plants. In this major industrial development the Louisiana Power & Light Company and

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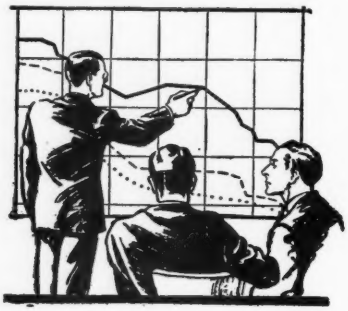
Middle South Utilities have played important rôles. They assisted in attracting such outstanding companies as Esso, Kaiser Aluminum, American Cyanamid, Olin-Mathieson, Shell, Dow Chemical, and Wyandotte Chemical.

WHILE advertising may in many cases be the tool that develops an industrial prospect, confidential assistance is the keynote of the real work that most of the utilities perform in guiding new industries to one of their own communities. A good example of how complete secrecy is preserved in preliminary negotiations is the case of the Minneapolis-Honeywell Company, which last year decided to build in Florida a multimillion-dollar plant which is now in operation at Largo, north of St. Petersburg. The prospect was listed as "the Davis project" and, though fifteen persons, mostly state, city, and county officials, a chamber of commerce industrial director, and seven representatives of Florida Power Corporation met with Minneapolis-Honeywell representatives, no one but the power company's industrial development department was aware of the company's identity.

The need for such a conference was the wide scope of information that must be supplied today to industrial prospects. Minneapolis-Honeywell had listed about 40 items on which data would be needed before a decision was reached. These ran the gamut from cost of living and cost of housing to the labor market, and included such subjects as highways, airlines, trucks, railroads, provisions for community help on temporary housing, churches, hospitals, schools, cultural features of community, water analyses, sewage treatment requirements, local engineering sources, unions, availability of contractors, soil structure and ground stability, zoning regulations, sports, civic, and social clubs, and many others, all of which called for expert information in many fields. Information from varied sources was gathered by the industrial development department of Florida Power and forwarded to Minneapolis-Honeywell. Only when the company made its final decision was its name brought into the picture. Such undercover activities have become common practice in industrial development work of utility companies and account for much of the success they have achieved, since many large corporations have found that embarrassing leaks to the press may result when too many groups are involved.

"INDUSTRIALISTS are more and more looking to the power companies when they start their search for new locations," says Clark P. Spellman, director of area development, Virginia Electric & Power Company. "We think this is because we have tried to present factual and unbiased data and are prepared to work in confidence. We have had prospects come to us rather than to other agencies because we either have the required information or can obtain it without exciting undue curiosity."

Virginia Electric & Power upped its advertising space 50 per cent in 1957, using full-page space in leading nationwide business magazines and newspapers. Each advertisement focused attention on a particular area of Virginia. It was simultaneously run in local newspapers in the area featured and advance proofs were sent to city and county governments, chambers of commerce, banks, realtors, and others.



Confidential Community Negotiations

"WHILE advertising may in many cases be the tool that develops an industrial prospect, confidential assistance is the keynote of the real work that most of the utilities perform in guiding new industries to one of their own communities. A good example of how complete secrecy is preserved in preliminary negotiations is the case of the Minneapolis-Honeywell Company, which last year decided to build in Florida a multimillion-dollar plant which is now in operation at Largo, north of St. Petersburg. The prospect was listed as 'the Davis project' and, though fifteen persons . . . met with Minneapolis-Honeywell representatives, no one but the power company's industrial development department was aware of the company's identity."

"Publication advertising perhaps is not the most effective way, but it is certainly one valuable source of prospects," Mr. Spellman says. Prospects are also developed through reading of trade publications and through personal contacts, local and otherwise. The best results in Mr. Spellman's experience are obtained through personal contacts "but we do use all of the accepted methods of developing new prospects." Virginia Electric works in close co-operation with state and local development agencies and the railroads. To be successful, the company believes it must have this working co-operation. "We realize no one group can land an industry, and all agencies must work together at the proper time."

ONE of the effective methods used by Virginia Electric is the compilation of "community inventories." Thorough surveys are made of each county, giving all data in which a prospect might be interested, including maps and lists of industrial sites. One prepared for Lunenberg county, for example, contained 33 industrial sites with sketches and all information that a prospect would want to know about a property, its location, area, topography, utilities available, and type of transportation.

An interesting facet of utility industrial promotion, in Florida, is the experience of the Florida Power & Light Company of Miami. It has directed its advertising for new industry through local newspapers to the many thousands of business and industrial executives who do winter vacationing at Miami Beach or elsewhere in the company's territory, which comprises about 40 per cent of Florida. Such advertising stresses this point: "Every businessman vacationing in our Sunshine state owes it to himself to investigate Florida's great business opportunities." Or this appeal: "Mr. Visitor, Florida's business climate is golden too!"

Says Malcolm B. McDonald, vice president:

> We have an especially unique opportunity to do this type of advertising right here at home. Almost all the leaders of business and industry make a trip to Florida at one time or another. We hit them with advertising while they are right here looking in our show window and invite them to contact our managers for information and assistance in any research they would like to do. I know of no other spot in the world where industrial advertising could be directed more accurately at the broad levels of business and industry management than by the newspapers and radio and television stations right here in Florida. There is no way of proving it, but I am certain that continual pounding with this type of advertising has not been wasted and perhaps has had a more subtle effect than could have been possible with five times the expenditure in other ways. We place our greatest emphasis on the direct approach when American businessmen are right here in Florida where they can see for themselves what we are talking about.

Florida has become very industry conscious in recent years. Many groups have become promoters. Even a municipally owned utility, the Jacksonville Utilities Department, has got into the act. Over the past few years it has been contributing the major share of an advertising program that has included frequent full pages in *The Wall Street Journal* and lesser space in a few other business publications.

Some utilities have taken full advantage of developments such as the construction of new superhighways. Examples: The Western Massachusetts Electric Company has capitalized on the fact that the new Massachusetts turnpike "makes western Massachusetts a suburb of the Northeast's great cities," while the Ohio Edison system, serving "the center of industrial America," points out that its service area "lies astride the greatest turnpike system in the nation," comprising the Pennsylvania, Ohio, and Indiana turnpikes. These major highways, by providing faster truck transportation, have opened up new industrial areas.

The Utah Power & Light Company bases its invitations to new industry on the mountains of raw materials and the great stores of undeveloped wealth in the Utah, Idaho, Colorado, and Wyoming areas it serves. This it calls "Treasure Chest Land." Also in the Far West, the Pacific Power & Light Company stresses, among other things, the opportunities for rare metals such as titanium and zirconium. The Southern California Edison Company points out how rapid population gains, in which California is leading the nation, make business and industrial op-

portunities. The Cleveland Electric Illuminating Company points to the new industrial opportunities that will be opened up by completion of the St. Lawrence seaway, a theme that other utilities in the areas to be benefited are also using.

THE Southern Company talks about "more power for the growing South," while one of its subsidiaries, Georgia Power Company, holds out to industry the prospects of plant sites at "realistic" prices and lower building costs than in some other areas. West Penn Electric system points to the advantages of small communities, where it is frequently possible to obtain local financing for plant construction. The Niagara Mohawk Power Corporation, which is doing an outstanding advertising job in promoting upstate New York, devotes equal attention in its ads to the many progressive cities in its territory, all of which are within easy access of the largest market area in the United States.

These are just a few variations of the advertising appeal that utilities are using. Industrial development managers agree, however, that advertising serves only to introduce the prospect and that the real work comes after he has indicated an interest in a new plant location. More on what this "real work" entails in a subsequent article.

DOES industrial development by a utility pay off? The facts speak for themselves. A few examples will suffice. Since the establishment of its present area development department in 1950, the Philadelphia Electric Company has located 69 new industries and relocated 196 industries in its 2,340-square-mile area, while many others were located by other agencies.

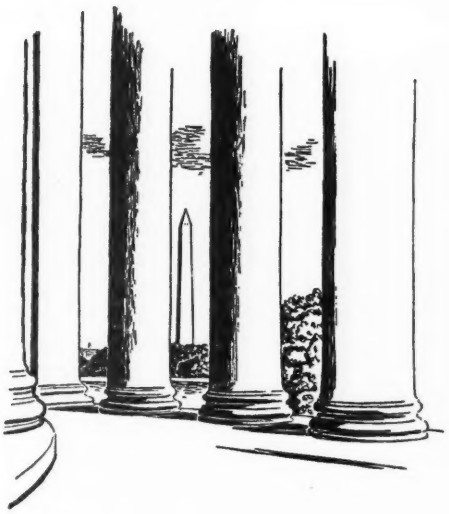
Earle S. Thompson, president of the West Penn Electric Company, has stated that within two years operations were started by 81 new concerns "brought into the area as a direct result of our development activities."

THE Utah Power & Light Company, serving an area of 23,000 square miles, started its industrial development program in 1954. Its first series of four advertisements in that year brought 693 requests for information and its booklet, "A Treasure Chest in the Growing West." The second series run in 1955 brought 1,117 requests, while the 1956 advertising resulted in 1,091 responses—a total of 2,901 in three years. While it used more than a dozen publications, its major advertising was done in *The Wall Street Journal, Business Week, Nation's Business,* and *U. S. News & World Report.*

How these and other companies which have been outstandingly successful in the highly competitive race for new industry are operating their industrial development programs will be told in a second article to appear in the January 30th issue of the FORTNIGHTLY.

PART II *of this article will appear in the next issue of the* FORTNIGHTLY.

Washington and the Utilities



Memphis Case Chaos

WISHING anybody in the natural gas pipeline business a happy New Year became almost risky as the year 1958 arrived in the wake of the consternation left throughout the industry by the Memphis case. This was the decision of last November 21st of the circuit court of appeals for the District of Columbia on appeal by the city of Memphis, which distributes gas supplied by a pipeline company. The court's ruling, if upheld on expected appeal to the U. S. Supreme Court, would prevent any pipeline company from obtaining rate increases by filing under § 4 (d) of the Natural Gas Act unless all contract customers agree on the merits of the increase. Theoretically it may be possible for pipeline companies to obtain such a high degree of concurrence by their customers, although it puts a premium on nuisance value. Some pipeline companies with definite automatic escalator clauses may still be able to obtain increases by filing them to become effective under bond five months after suspension, as heretofore. But for most pipeline companies, in most situations, the approach under § 4 (d) has become meaningless.

The slower or more cumbersome approach under § 5 (investigation instituted by the FPC) is almost entirely untested and will probably prove unsatisfactory. The impact of this is most likely to mean adverse repercussions in pipeline company financing and suspension of much projected expansion.

CONGRESS can hardly do anything about this in 1958. That is because the Supreme Court could not rule on an appeal until after Congress adjourns for the summer of 1958 unless it pre-emptorily denies a review in the early spring, which seems unlikely. Meanwhile, Congress would hesitate to take any steps until the highest court has spoken. Accordingly, the situation is expected to get worse before it gets better. As for producer exemption legislation, such as the Harris-O'Hara Bill still pending in the House, the outlook is even less hopeful than it was a year ago, and much less than fifty-fifty. It is possible that before the end of 1958 the problems of the gas industry will get the attention they deserve from Congress and elsewhere, although there is no indication of that at present.

Chairman Kuykendall was quoted in a by-line story in *The New York Times* by Gene Smith as saying that he was "quite optimistic" that the commission would obtain a writ of certiorari from the U. S. Supreme Court to review the Memphis case. But he declined, of course, to speculate as to what the court would do. A meeting of the New York Society of Security Analysts, scheduled earlier this month, awaited with interest any further comment Kuykendall might make for the benefit of the financial community, which is quite disturbed over the Memphis decision.

Already there are rumors of pipeline companies scaling down plans for new construction and even refusing to accept deliveries of pipe on order. There is a long-range feeling that eventually the very seriousness of the situation will finally convince either the highest court or Congress that something must be done. Already state commissions are putting the pressure on distributing gas companies to resist pipeline increases and there is a general combing of rebate possibilities going on among federal and state regulatory staffs.

JOHN FERGUSON, executive director of the Independent Natural Gas Association of America, believes, along with Chairman Kuykendall, that the consumers will be the losers in the long run if the Memphis decision stands. "Without question the pipelines will stop or severely cut back their expansion plans," he said. "Then the producers will be faced with the problems of finding gas to sell the lines. Once they find it, where would be the forum for them to be heard?"

The American Gas Association naturally refuses to take a definite stand in the controversy, because AGA represents three sides of the industry—producers, pipeline operators, and utilities. John E. Heyke, president of Brooklyn Union Gas Company, however, a leading spokesman for the gas utilities, described the decision as "not in the best interests of any segment of the gas industry."

Heyke stated further: "As we interpret the Memphis decision, the FPC can no longer permit pipelines to put increased rates into effect under bond unless their customers agree to the increase. Only at the conclusion of an investigation, when the FPC determines the just and reasonable pipeline rate, can it be put into effect. Presumably, the commission would find the same rate under this procedure as under the bonded rate procedure prohibited by the Memphis decision. . . . the Memphis decision, if it is not reversed, may well make it more difficult for us to acquire additional gas supplies and make these supplies more expensive."

Little Inch Reconversion

RECONVERSION of the "Little Inch" pipeline to petroleum products moved a step nearer last month as a Federal Power Commission examiner, William Costello, ended hearings on the proposal. The 20-inch pipeline was built by the government early in World War II to move fuel oil and gasoline from the Southwest to the East at a time when German submarines were taking a heavy toll of oil tankers along the Atlantic coast.

The Texas Eastern Transmission Corporation of Shreveport, Louisiana, bought the line in 1947 and has used it since to transport natural gas. The pipeline has been called the "Little Inch" because a larger 24-inch line, also built early in World War II by the government, was known as the "Big Inch." The FPC hearing followed months' long consideration of Texas Eastern's application to abandon

the "Little Inch" as a natural gas pipeline and after attorneys for the company accepted conditions proposed by a group of Mississippi and Ohio barge operators. These dealt primarily with a rate structure.

Examiner Costello, observing that Pittsburgh, Pennsylvania, was withdrawing its opposition to Texas Eastern's request to convert "Little Inch," said he would render an initial decision as soon as possible. He indicated it should be ready for the commission early this year. Pittsburgh had opposed the reconversion to petroleum products on the grounds that it might lead to sharp increases in natural gas costs to consumers.

The "Little Inch" line extends from Baytown, Texas, to Moundsville, West Virginia, where it connects with another pipeline system feeding numerous eastern seaboard points. It has been maintained for some time on a stand-by basis awaiting final action by the commission. Texas Eastern plans to transport in the line liquid petroleum gas as well as gasoline and fuel oils.

REA Expects Expansion

A YEAR-END statement from the Rural Electrification Administration in Washington indicated that rural electric systems would be expanded at the rate of more than a billion dollars during the next five years. Two-thirds of this (or an estimated $695 million) would come from REA financing, according to this appraisal. The balance would be the result of business-managed utility financing.

The REA estimate was based on a survey of construction plans of the 986 companies and co-operatives which borrow money from the agency to build rural power systems. Officials warned, however, that actual construction and borrowing figures could be much larger than these estimates.

"It is our experience," explained REA Administrator David A. Hamil, "that, generally, borrowers have been conservative in estimating their needs."

The survey, the REA said, showed country power systems plan to build $282 million of new facilities in fiscal 1959, the year starting next July 1st; $275 million in fiscal 1960; $192 million in fiscal 1961; $213 million in fiscal 1962; and $188 million in fiscal 1963. Officials said the survey showed planned borrowing of $210 million in fiscal 1959, $169 million in fiscal 1960, $129 million in fiscal 1961, $124 million in fiscal 1962, and $63 million in fiscal 1963.

AEC Cool to Atom Expansion

ACCORDING to a copyright story in *The Wall Street Journal,* published the day after Christmas, the Atomic Energy Commission still intends to limit its financial assistance for construction of nuclear power plants. The AEC takes this position notwithstanding increased pressure from the Democratic majority in Congress to step up government assistance and to engage directly in building atomic plants.

AEC's restatement of policy was made when it rejected a proposal by three companies known as the Florida Nuclear Power Group to build a 136,000-kilowatt gas-cooled atomic power reactor with government aid. AEC declared that it turned down the proposal on the grounds it would have absorbed all research and development costs without any predetermined limit. In addition, the AEC said the electric utilities proposed certain conditions that would have permitted them to forego plant construction and operation "with little financial loss, although the commission would have expended considerable sums

for the project." Two groups of utilities submitted a new proposal for a smaller, 50,000-kilowatt gas-cooled reactor to replace the rejected proposal for a Florida reactor. Made under the AEC's third round of invitations for government aid to industry, the new proposal came from the East Central Nuclear Group and the newly formed Florida West Coast Nuclear Group.

Florida Power & Light Company of Miami, one of the three companies in the original Florida Nuclear Power Group, dropped out of the substitute project. The two other companies in on the original plan—Florida Power Corporation and Tampa Electric Company—comprise the new Florida West Coast Nuclear Group. While the AEC expressed its determination to keep its aid limited, the new proposal indicated the commission apparently has let up on its deadline requirement for projects planned under the third-round invitation issued last January. This new invitation requires that proposed plants be completed by mid-1962. The new proposal listed this time as possible but said mid-1963 was a "more realistic" date.

REPRESENTATIVES from Congress and from industry recently have pressured the AEC for stepped-up government assistance to boost the power reactor building program. Thus far, the AEC has indicated to them that more money will likely be forthcoming but that no significant boost is likely.

This raises the question, of course, as to who is going to build and operate future large-scale reactors, government or private industry? Repeatedly AEC Chairman Strauss and AEC Commissioner Harold S. Vance have stressed the words "private enterprise." In 1956, the Democrats made a strong effort to appropriate $400 million for large-scale reactor development. Pressure from the administration, particularly Strauss, killed the proposal. There is at present only one power-producing reactor plant in the nation which is wholly owned and operated by private industry, the 5,000-kilowatt producer at Pleasanton, California, of General Electric and Pacific Gas and Electric Company.

At Shippingport, Pennsylvania, there is the recently christened $110 million plant almost wholly owned by the AEC and rated at 60,000 kilowatts. Duquesne Light & Power Company, which distributes the electricity, contributed $5 million to the cost of the atomic reactor and put up some $10 million for turbines and plant facilities. There are two other small producers at the Argonne National Laboratory near Chicago, and at the AEC's Oak Ridge, Tennessee, installation. The AEC says they produce for civilian use. In brief, the United States is producing 81,500 kilowatts and only 5,000 of that is by private industry alone.

BUT three plants are under construction and scheduled to begin producing some time between 1960 and 1965—the 180,000-kilowatt plant of Commonwealth Edison near Joliet, Illinois, the 275,000-kilowatt plant (only 140,000 from nuclear reactors) of Consolidated Edison near Indian Point, New York, and the 100,000-kilowatt of the Power Reactor Development Company near Monroe, Michigan. Two other medium-sized plants are in the immediate planning stage, the 75,000-kilowatt plant of Consumers Public Power of Nebraska, and the 134,000-kilowatt plant of Yankee Atomic Electric Company of Rowe, Massachusetts. The Indian Point and Joliet projects, except for the AEC's research, are to be industry projects alone.

On the face of it, the United States has an impressive start in the nuclear power field.

Telephone and Telegraph

Bell System Growth

EXPANSION of the Bell system continued during 1957, but at a somewhat slower pace than in the previous year, 1956. In a year-end report, Frederick R. Kappel, president of American Telephone and Telegraph Company, reported that AT&T's earnings for 1957 were about $13 per share, or nearly the same as the $13.16 per share earned in 1956 and the $13.10 per share earned in 1955.

Earnings in 1957 were about equal to the prior two years' per share figures, Kappel added, despite an increase of about 6 million shares above the average number outstanding in 1956, and a rise of some 13 million over the average outstanding in 1955. The Bell system added nearly 3 million telephones in 1957, Kappel reported, which is less than the 3,227,000 gained in 1956, but more than the 2,880,000 added in 1955. The company currently has more than 52 million telephones in service, he said, up from 49,438,000 in 1956 and 46,218,000 in 1955.

Kappel reported that 91 per cent of the Bell system's phones are presently dial operated, compared with 89 per cent in 1956 and 87 per cent in 1955. "Dialing of long distance as well as local calls is growing rapidly," he said. "Some 5 million customers can now dial directly to many faraway points without the assistance of an operator, and 15 million can dial directly to nearby points."

Long-distance conversations handled by the Bell system last year increased 7 per cent over 1956, Kappel said. This was well below the 10 per cent gain posted in 1956 over 1955, and the 12 per cent rise in 1955 over 1954, but it was greater than the 5.5 per cent increase in 1954 over 1953. Kappel said the Bell system spent some $2.5 billion last year on construction to provide new facilities needed for growth and modernization.

He said:

> To help finance construction, the system obtained about $1,150,000,000 of new capital in the past year. Most of this was raised through the sale of debt issues, and was, of course, in addition to the more than $500 million obtained in the fall of 1956 through the offering of AT&T stock to share owners.
>
> . . . although 1958 growth and construction may be somewhat below 1957, we expect they will still be very large and that much new capital will be required. . . .

WITH this in mind, AT&T called a stockholders' meeting, scheduled for

January 15th, at which time shareholders were asked to authorize a $718 million issue of convertible debentures, and a new employees' stock plan under which 7 million shares would be made available for offering to employees during the next several years. Kappel said:

> The long-term outlook is that telephone services must be widely expanded to meet all the needs of our fast-growing country. Under these circumstances we foresee the need for continuing heavy construction which will require new capital in the range from a billion to a billion and a half dollars a year. The first and clear necessity is to have earnings that will assure the success of such a program. Only on that foundation can the needs of the nation be met as they should be. Bell system earnings, which are currently at the rate of 6.7 per cent on capital, in our judgment definitely should be higher and we shall vigorously pursue our efforts to convince regulatory commissions that the level of earnings should be raised.

The Bell system's current 6.7 per cent return on capital is below the 6.8 per cent return posted in 1956 and 1955, but above the 6.2 per cent return reported for 1954.

Municipal Tax Formula

A NEW formula for figuring municipal franchise taxes to be paid by Southwestern Bell Telephone Company went into effect in Arkansas this month. The order announcing the formula was handed down by the Arkansas Public Service Commission on December 10th and may well set a precedent for other private utilities.

The commission's order did not purport to tell the Arkansas cities how much special tax they could levy against Southwestern Bell. It directed, however, that any tax amount in excess of that fixed by the formula should be passed on to customers in the city which levies the excessive tax. The commission directed the company to present facts and figures on the taxes it pays the various cities so the commission could determine if any discrimination existed among them.

The commission said in its order that it had determined from the evidence that discrimination did exist and will likely become more serious. "The only way this unlawful discrimination can be eliminated," the order said, "is for the commission to order the company to pass on to telephone users any excess city special taxes which may be levied against the company by any city in the state of Arkansas. . . .

"If the utility does not pass (on to the customers) these excess city special taxes it will become a part of the statewide operating expense and result in loading an additional amount of operating expenses to be borne by all subscribers of the utility, many of whom live elsewhere than in the taxing municipality."

Taxes charged by the cities ranged from nothing to $75,000 a year, according to commission findings. "There is no logical relationship between the amounts of such taxes, nor do such taxes in any way relate to the size of the cities and towns, the number of telephones located therein, or to any other discernible feature," the order stated.

"It is not the purpose of this commission," the order said, "to undertake to tell the cities and towns the amount of taxes that they may levy against the utilities operating in the respective cities and towns but it is our intent and purpose to prevent the discrimination that is so apparent in the wide variance in spe-

cial city taxes by invoking our right and lawful duty to fix rates designed to eliminate discrimination among cities and subscribers of the company."

THE formula announced by the commission involves a tax per telephone ranging from 80 cents for the smaller cities to $1.07 for the larger ones. In Arkansas, Southwestern Bell is now paying $30 a year. Its tax under the new formula would be $98. The tax in Little Rock is now $75,000 a year, but under the formula it would be only $54,830. The Little Rock Manager Board has been trying to find a way to increase the present $75,000 annual tax.

Representatives of a number of cities attended the hearings on the formula and there were indications that some of the cities would test the ruling in the courts.

Fire Alarm Service Approved In New York

THE New York Telephone Company has been authorized to file a special tariff for rendering private branch exchange service "for voice reporting of fire, police, and other emergency alarms." Under this arrangement the street call boxes are connected with facilities integrated with the telephone company's general system, with special features to insure connection.

Protests against the service filed by the largest manufacturer of traditional telegraphic alarm systems, among other interveners, were rejected by the New York Public Sevice Commission. The objectors feared that approval by the commission of the telephone company's special service would set a precedent for regulating other types of emergency alarm services not heretofore subject to regulation as a utility service. In disposing of this argument, the commission stated:

> There are certain principles of law about which there can be little argument.
>
> First, our power to regulate utilities is the result of legislative action and we can regulate only those utilities which in the opinion of the legislature require regulation, and those only to the extent prescribed by law. A reading of the regulatory statutes of the several states will show that certain utilities are regulated in some states and not in others. In our own state, since the initial enactment of the law, the legislature has seen fit to change the utilities under regulation. For example, the latest to be added to the list is a contract carrier of persons—some fifty years after the passage of the Public Service Law.
>
> The second principle about which there is no dispute is that, if a utility subject to regulation engages in business of a nonutility character or of a type not covered by the regulatory statute, such portion of its business is not subject to regulation. Perhaps the best example is the sale by the utility of appliances which has been held to be not subject to regulations. . . .
>
> Under the law of this state we cannot see how any company which manufactures and sells warning systems to municipalities can in any way be regarded as a utility subject to regulation. Hence, we fail to see how the protestants can be adversely affected . . .

The commission further ruled that in the case of the telephone company, the willingness of the company to undertake this new form of service was compatible with its public service obligation to render telephone service generally.

Financial News and Comment

By OWEN ELY

Big Rocky Reach Hydro Project Financed, but Canadian Problem Looms

An important step has been taken to develop additional power on the U. S. portion of the Columbia river. Public Utility District No. 1 of Chelan County has sold $250 million 5 per cent revenue bonds due 2013 to develop the Rocky Reach hydro project. The bonds were successfully placed on a 5 per cent yield basis and immediately went to a premium of several points. Half of the bonds were publicly offered for current delivery and half were purchased by financial institutions under delayed delivery purchase contracts, which proved to be a very successful marketing device. A bond retirement account is provided (with a rather complicated setup) under which bonds would be retired by purchase or redemption semiannually, so that bonds will be retired in full by maturity in increasing annual amounts.

The bonds will finance the completion of construction of the 775,000-kilowatt Rocky Reach hydroelectric project. Work on the project was begun during the low water period a year ago, being financed by the sale of $23.1 million bonds. With Stone & Webster Engineering Corporation as construction engineers, development work to date has been encouraging and overall progress has been somewhat ahead of schedule, with 194,000 cubic yards of concrete poured as of October 15th. Commercial operation of the first unit is expected by July 15, 1961, with three additional units in service by the end of that year and the three remaining units by May, 1962—the latter being a year in advance of the date required by the FPC license. While rated capacity is 710,000 kilowatts, peak capability will be at least 65,000 kilowatts larger. The district has already awarded contracts for most of the major items of equipment and material so as to avoid subsequent price increases.

The district has entered into contracts for the sale of power to Puget Sound Power & Light, Aluminum Company of America, Portland General Electric, Pacific Power & Light, and Washington

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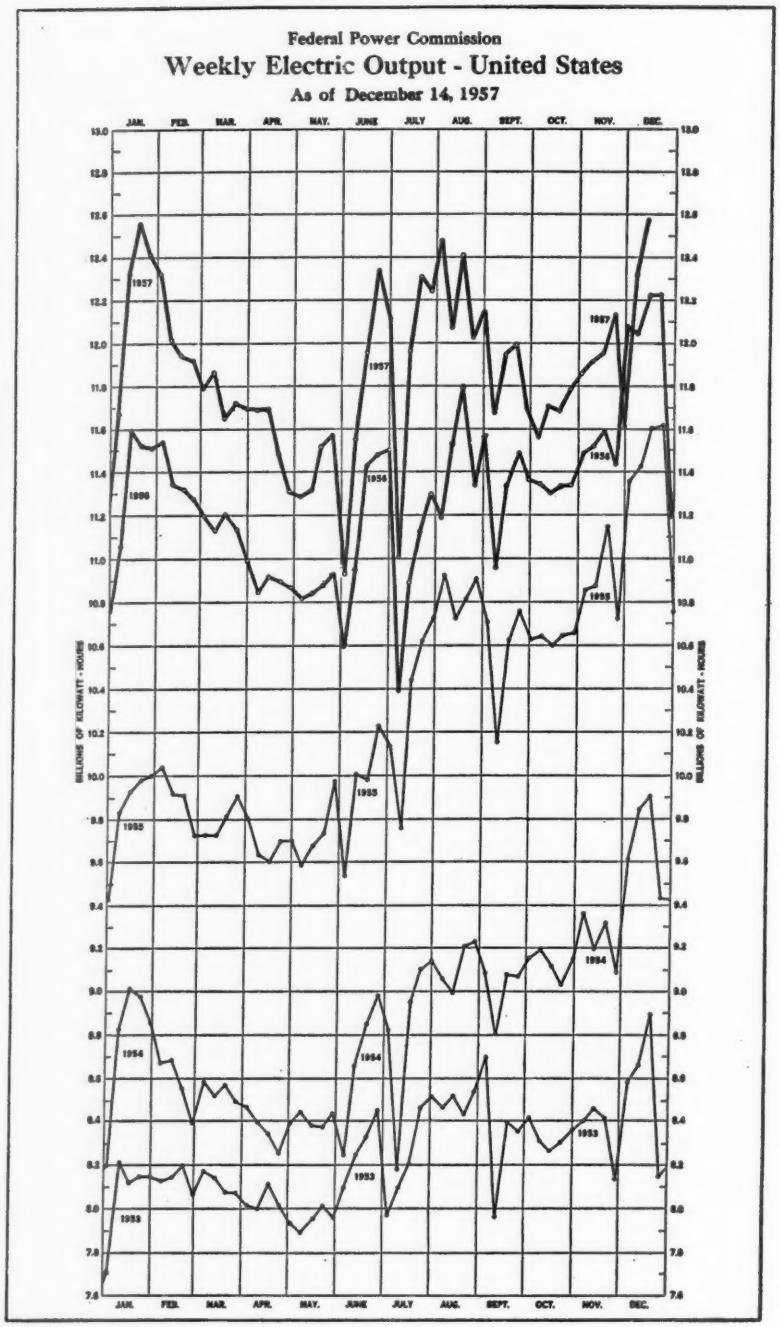
Water Power. Puget Sound Power & Light has contracted for a minimum of 300,000 kilowatts (39 per cent of the output) and a maximum after June 30, 1977, of 438,000 kilowatts (57 per cent). Alcoa will take 23 per cent, replacing part of the interruptible power now obtained from Bonneville. The city of Portland will take 16 per cent, Pacific Power & Light 7 per cent, and Washington Water Power 4 per cent. However, the district reserves the right to withdraw up to 18 per cent of total output.

THE contracts cover the entire output for a period of fifty years from the beginning of commercial operations, or until the bonds are paid off. Each purchaser of power is obligated to pay 115 per cent of the annual amount required for interest and bond redemptions, as well as the entire cost of producing and delivering power. The Rocky Reach division will be operated by Chelan PUD No. 1 as a separate utility system, and under the power sales contracts and the bond resolution the district is required to operate and maintain the hydro plant in an efficient and economical manner, following the operating practices used by other electric utilities in the Pacific Northwest.

Rocky Reach is located about halfway between Chief Joseph (which is just below Grand Coulee) and the Priest Rapids development. McNary, John Day, The Dalles, and Bonneville are further down the river. According to the preliminary prospectus the estimated cost of the project will be $268.3 million or about $346 per kilowatt. R. W. Beck & Associates have estimated that the average annual power cost over a 50-year period will be $16,090,000, equivalent to $20.76 per kilowatt year of peak capability. The average annual power cost would approximate 3.6 mills per kilowatt-hour for the 4.5 billion kilowatt-hours of energy to be produced during a low water year, and about 3.2 mills for the 5.1 billion to be produced in a normal hydro year.

SOME twenty years ago the hydroelectric resources of the Pacific Northwest were estimated at some 22 million kilowatts, which was about 13 times the total demand at that time of about 1.6 million kilowatts. Since then, however, the increase in the winter peak demand has averaged about 10 per cent per annum, so that the 1956-57 demand was about 9.7 million kilowatts. About half of the potential capability or some 10 million kilowatts has now been developed and is being used. Including the Rocky Reach project, there are now under construction, licensed, or authorized by the federal government, some forty new hydro projects with a total peak capability estimated at 7 million kilowatts. Many other hydro projects, with a total capacity of about 5 million kilowatts, are also being considered. Thus, completion of all these projects, if authorized and carried out, would just about account for the total 22 million kilowatts feasible capability estimated in 1937.

The engineering committee of the Pacific Northwest Governors Power Policy Committee has estimated that during the next decade annual demand will increase 6.7 per cent per annum, which would mean a peak load demand of 17.2 million kilowatts by 1966. However, if the 10 per cent annual rate of increase should continue the load would be 23.5 million kilowatts. Thus by 1966 hydro capacity would be barely adequate to take care of the smaller of the two peak load figures. Thus, it will be necessary to (1) continue active development of new hydro projects at the rate of about one Rocky Reach project per annum, (2) build additional steam capacity as Puget Sound and


Federal Power Commission
Weekly Electric Output - United States
As of December 14, 1957
JAN. FEB. MAR. APR. MAY. JUNE JULY AUG. SEPT. OCT. NOV. DEC.
BILLIONS OF KILOWATT - HOURS
1957
1956
1955
1954
1953

others have considered doing, or (3) obtain additional power from the Columbia river through more efficient handling of stream flow in the upper reaches of the Columbia river in Canada.

SENATOR Neuberger of Oregon, who favors public power, has written an interesting account of our hydro relations with Canada in *Harper's* for December, from which we have taken some of the following data:

Canada is reported to be seriously considering a proposal to divert out of the Columbia river one-quarter of its flow before it crosses the border—which would spoil U. S. plans for the expansion of Grand Coulee, Chief Joseph, Bonneville, McNary, and The Dalles. If Canada does this, Coulee could maintain its peak capacity of nearly 2 million kilowatts only with difficulty. On the other hand, if Canada and the U. S. could agree to mutual storage reservoirs on the upper river, Coulee's production might increase to 2.8 million kilowatts.

It is perhaps not generally realized that the "rising tide of nationalism" in Canada affects not only potential exports of natural gas, but also of hydro power. Another "alarming" development (according to the Senator) is the evident determination of the Eisenhower administration to abandon the plans of the Corps of Army Engineers for comprehensive development of the Columbia basin. The administration has decided to concentrate on the Colorado river with only 17 million acre-feet of water flow to the sea, compared with 180 million for the Columbia. (Senator Neuberger also refers to the "wasteful underdevelopment" of Hell's Canyon.)

ON May 13, 1955, the Canadian Parliament appropriated $250,000 to study the feasibility of diverting the upper Columbia waters into the Fraser river watershed—a proposal championed by General A. G. L. McNaughton, chairman of the Canadian side of the International Joint Commission on power. This would be done by drilling a tunnel about 12 to 15 miles long through the Monashee Mountains. As a result Canada would obtain over 1,200 feet of extra "head"—eight times the drop of Niagara Falls. The 10-mile tunnels at Kitimat in the north have apparently demonstrated the feasibility of such diversion. The Canadians believe they have the legal right to do this under the Boundary Waters Treaty of 1909, though some lawyers think the U. S. could bring damage suits.

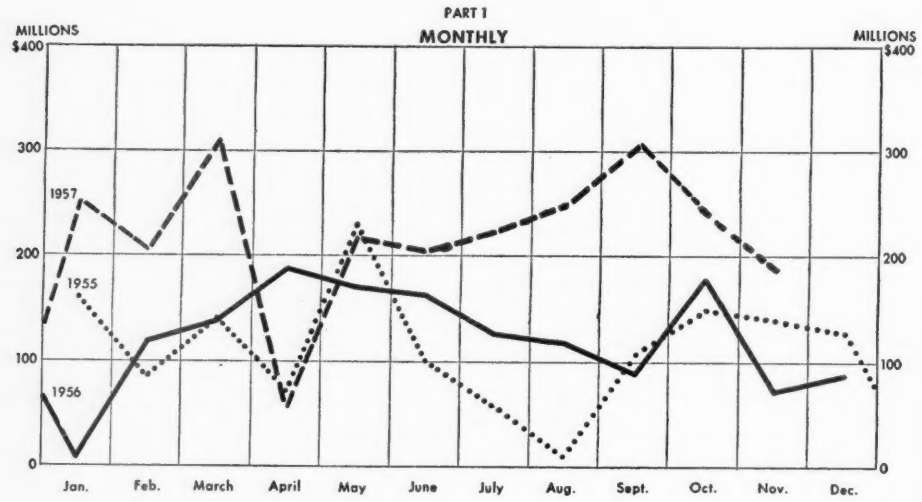
Fortunately, there is a serious obstacle to this ambitious undertaking. The head waters of the Fraser river furnish one of the principal spawning grounds for the salmon and a great deal of work has been done to safeguard the salmon runs up the river. It is said that the fish are worth $32 million annually to Canada—enough to offset a lot of cheap power. However, the upper Columbia itself has no important fishing values.

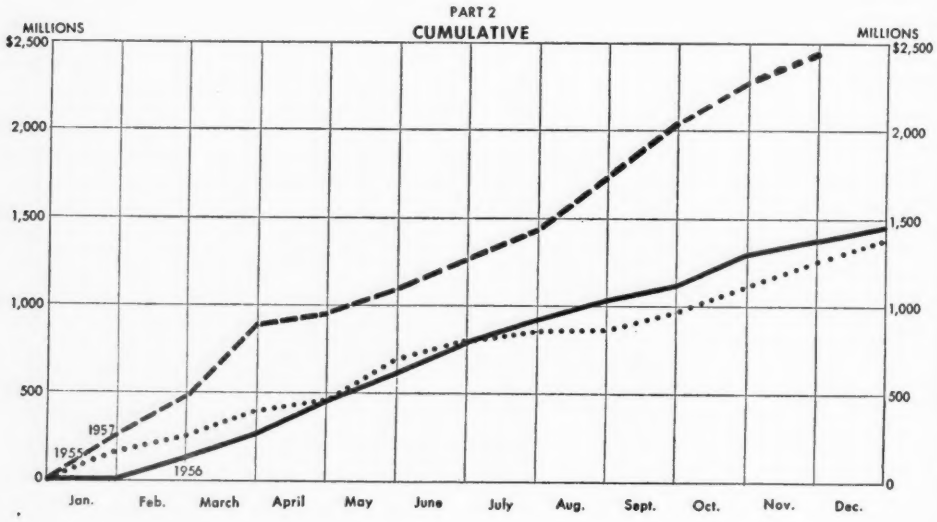
The Columbia river, in its natural state, is a highly seasonal, "feast or famine" flow of water—the average maximum flow is about ten times the low water average. But with adequate dams in Canada (for which there are ideal sites, according to Senator Neuberger) the annual power potential would be raised sufficiently to increase the name-plate rating on generators at Chief Joseph and The Dalles by some 70 per cent.

THE Canadian-American International Joint Commission has apparently made little or no real progress toward any mutual plan for development of the Columbia river. Despite the fact that the

PROGRESS OF NEW MONEY FINANCING

BY UTILITY COMPANIES RENDERING PRINCIPALLY ELECTRIC SERVICE*





*Covers companies included in the calendar with assets over $35,000,000.

Source, Irving Trust Company

Dominion government has veto power over any project by the Province of British Columbia involving the export of power, nevertheless two famous financiers —Henry J. Kaiser, and Mr. Wenner-Gren of Sweden—have tried to work out deals with the Province for the development of its hydro and other resources. Earlier, the Puget Sound Utilities Council had an elaborate scheme to build a $300 million dam in Canada and to give it to British Columbia along with the power to be produced in Canada (700,000 kilowatts)—merely for the privilege of obtaining the additional power downstream in the U. S. (nearly 1.1 million kilowatts) which would be made possible by building such a reservoir.

UTILITY ANALYSES PUBLISHED RECENTLY*

Company Analyses	*Firm*	*No. Pages*	*Issued*
American Gas & Electric	Harris, Upham & Co.	1	Sept.
Arizona Public Service	Oppenheimer & Co.	7	Dec.
Arizona Public Service	Josephthal & Co.	2	Nov.
Arkansas Louisiana Gas	Hirsch & Co.	5	Sept.
Black Hills P. & L.	A. G. Becker & Co.	3	Oct.
California Electric Power	Thomson & McKinnon	1	Dec.
California Electric Power	A. M. Kidder & Co.	1	Nov.
Calgary Power, Ltd.	T. A. Richardson & Co.	1	Oct.
Central & South West	Goodbody & Co.	2	Aug.
Cleveland Elec. Ill. Co.	Argus Research Corporation	2	Oct.
Columbus & Sou. Ohio Elec.	Goodbody & Co.	2	Oct.
Commonwealth Edison	Reynolds & Co.	1	Aug.
Commonwealth Edison	Argus Research Corporation	2	Nov.
Consolidated Edison	Josephthal & Co.	2	Sept.
Consumers Power	Argus Research Corporation	2	Sept.
Detroit Edison	Argus Research Corporation	7	Nov.
El Paso Natural Gas	Goodbody & Co.	11	Nov.
General Public Utilities	Green, Ellis & Anderson	2	Nov.
General Public Utilities	Argus Research Corporation	4	Oct.
Gulf States Utilities	Argus Research Corporation	2	Sept.
Illinois Power	E. F. Hutton & Co.	1	Oct.
International Tel. & Tel.	Merrill Lynch, Pierce, Fenner & Beane	2	Aug.
International Utilities	A. M. Kidder & Co.	2	Aug.
Laclede Gas	Goodbody & Co.	2	Nov.
Louisville G. & E.	Josephthal & Co.	2	Dec.
Montana-Dakota Utilities	Fahnestock & Co.	2	Dec.
New York State E. & G.	Goodbody & Co.	3	Dec.
Nor. Indiana P. S.	Dean, Witter & Co.	1	Nov.
Northern Nat. Gas	Fahnestock & Co.	2	Nov.
Northern States Power	Argus Research Corporation	2	Sept.
Oklahoma Nat. Gas	Thomson & McKinnon	1	Oct.
Pacific Lighting	Dean, Witter & Co.	1	Oct.
Pacific Lighting	Goodbody & Co.	2	Oct.
Pacific Lighting	Fahnestock & Co.	2	Oct.
Pacific P. & L.	Milwaukee Co.	—	Dec.
Philadelphia Elec.	Argus Research Corporation	2	Nov.
Shawinigan Water & Power	Greenshields & Co. (N. Y.), Inc.	4	Oct.
Sierra Pac. Power	Kerr & Co.	4	Oct.
South Carolina Elec. & Gas	Goodbody & Co.	2	Oct.
Southern Ind. G. & E.	Josephthal & Co.	2	Oct.
Southern Ind. G. & E.	Josephthal & Co.	2	Oct.
Tampa Electric	Ralph E. Samuel & Co.	2	Dec.
Virginia E. & P.	Goodbody & Co.	2	Oct.
Washington Water Power	Auchincloss, Parker & Redpath	—	Dec.
West Penn Electric	Argus Research Corporation	4	Dec.

(*Continued*)

Tabulations

Tabulation of Electric & Gas Utility Common Stocks	First Boston Corp.	12	Dec.
Public Utility Common Stocks	R. W. Pressprich & Co.	7	Dec.

Regular Bulletins

Public Utilities Bulletin	Eastman, Dillon & Co.	10	Oct.
Monthly Review of Utility Developments	Josephthal & Co.	4	Oct.

General Topics

Electric Generating Capacity and Peak Demand	Commonwealth Services, Inc.	3	Nov.
Natural Gas Pipelines	Goodbody & Co.	1	Dec.
Utility Stocks and Interest Rates	Josephthal & Co.	2	Nov.
Outlook for Electric Utility Common Stocks	Goodbody & Co.	10	Sept.
Suggested Tax Switches in Utility Stocks	Goodbody & Co.	2	Oct.
Selected Utilities for 1958	Josephthal & Co.	4	Nov.
Far-reaching Appeals Court Decision Upsets Natural Gas Pipeline Industry	Goodbody & Co.	3	Nov.
Review of California Rate Increases	Goldman, Sachs & Co.	2	Nov.
Fast Growth Utilities	Goodbody & Co.	3	Aug.
Atomic Energy and the Electric Utility Industry	Goodbody & Co.	7	Nov.
Selected Electric Power Equities for High Yield	R. W. Pressprich & Co.	2	Oct.
Electric Utility Growth Stocks under Today's Money Market Conditions	Reynolds & Co.	1	Nov.
Electric Utilities	L. F. Rothschild & Co.	2	Oct.
Electric Utilities	Jas. Oliphant & Co.	8	Oct.

*Similar lists have appeared about several times a year in earlier issues, the last being the September 12th issue.

DATA ON ELECTRIC UTILITY STOCKS

Annual Rev (Mill.)			*11/24/57 Price About*	*Dividend Rate*	*Approx. Yield*	*Recent Share Earnings*	*% Increase*	*Aver. Incr. In Sh. Earns. 1951-56*	*Price-Earn. Ratio*	*Div. Payout*	*Approx. Common Stock Equity*
$268	S	American G. & E.	38	$1.60m	4.2%	$2.16Se	7%	9%	17.6	74%	35%
46	O	Arizona Pub. Ser.	28	1.12	4.0	*1.85Se	13	13	15.1	61	31
11	O	Arkansas Mo. Power	16	1.00c	6.3	1.30Se	—	10	12.3	77	31
32	S	Atlantic City Elec.	31	1.40	4.5	1.78N	10	10	17.4	79	29
132	S	Baltimore G. & E.	35	1.80	5.1	2.27Se	D1	8	15.4	79	41
7	O	Bangor Hydro-Elec.	32	1.90	5.9	2.47Se	D5	8	13.0	77	35
5	O	Black Hills P. & L.	22	1.44	6.5	2.11Oc	D6	1	10.4	68	27
99	S	Boston Edison	49	2.80	5.7	3.45De	1	2	14.2	81	50
21	A	Calif. Elec. Power	13	.76	5.8	.97Se	3	16	13.4	78	36
21	O	Calif. Oreg. Power	28	1.60	5.7	2.20Au	NC	5	12.7	73	33
8	O	Calif. Pac. Util.	27	1.60	5.9	2.25Se	—	6	12.0	71	30
63	S	Carolina P. & L.	25	1.32	5.3	1.83N	14	2	13.7	72	42
28	S	Cent. Hudson G. & E.	15	.80	5.3	1.03Se	D7	10	14.6	78	38
21	O	Cent. Ill. E. & G.	28	1.60	5.7	2.39Se	2	11	11.7	67	33
35	S	Cent. Ill. Light	49	2.60	5.3	3.89Oc	D4	8	12.6	67	41
51	S	Cent. Ill. P. S.	32	1.60	5.0	2.36Se	D3	12	13.6	68	38
13	O	Cent. Louisiana Elec.	33	1.60	4.8	2.10Se	—	8	15.7	76	32
35	O	Cent. Maine Power	21	1.40	6.7	*1.85N	4	4	11.4	76	34
128	S	Cent. & South West	42	1.60	3.8	2.34Se	2	15	18.0	68	35
12	O	Cent. Vermont P. S.	13	1.00	7.7	* .94N	D22	1	13.9	106	31
114	S	Cincinnati G. & E.	29	1.50	5.2	1.94Se	D8	7	14.9	77	38
7	O	Citizens Util. "B"	13	.90a	7.0a	*1.17Se	5	10	11.1	77	42
111	S	Cleve. Elec. Illum.	39	1.60	4.1	2.56Se	D2	8	15.2	63	49
4	O	Colo. Cent. Power	26	1.32	5.1	1.57Se	D10	8	16.6	85	33
48	S	Columbus & S. O. E.	31	1.60	5.2	2.66Oc	18	5	11.7	60	33
360	S	Commonwealth Ed.	41	2.00	4.9	2.85Se	5	8	14.4	70	44
11	A	Community Pub. Serv.	26	1.30	5.0	1.83Se	7	15	14.2	71	52

Annual Rev. (Mil.)		(Continued)	11/24/57 Price About	Dividend Rate	Approx. Yield	Recent Share Earnings	% Increase	Aver. Incr. In Sh. Earns. 1951-56	Price-Earn. Ratio	Div. Payout	Approx. Common Stock Equity
2	O	Concord Elec.	43	2.40	5.6	2.67De	D1	1	16.1	90	64
71	O	Conn. Lt. & Pr.	18	1.00	5.6	*1.19N	D8	7	15.1	84	39
23	O	Connecticut Power	41	2.25	5.5	2.90Se	11	4	14.1	78	41
522	S	Consol. Edison	44	2.40	5.5	*3.31Se	3	8	13.3	73	40
208	S	Consumers Power	47	2.40	5.1	3.21Oc	D3	6	14.6	75	47
74	S	Dayton P. & L.	45	2.40	5.3	3.09Au	NC	8	14.6	78	43
39	S	Delaware P. & L.	48	1.80	3.7	2.77Se	18	10	17.3	65	35
237	S	Detroit Edison	37	2.00	5.4	2.60Se	14	8	14.2	77	44
130	A	Duke Power	31	1.40	4.5	2.07Se	13	20	15.0	68	52
95	S	Duquesne Light	35	2.00	5.7	2.50Se	2	4	14.0	80	35
31	O	East. Util. Assoc.	30	2.20	7.3	2.35Oc	D11	0	12.8	94	34
2	O	Edison Sault Elec.	16	.80	5.0	1.19Se	5	13	13.4	67	42
12	O	El Paso Elec.	21	1.00	4.8	1.39Se	6	8	15.1	72	41
12	S	Empire Dist. Elec.	18	1.20	6.7	1.55Se	3	3	11.8	77	39
5	O	Fitchburg G. & E.	49	3.00	6.1	3.65De	4	3	13.4	82	45
49	S	Florida Power Corp.	58	2.00	3.4	2.78Se	1	19	20.9	72	36
110	S	Florida P. & L.	54	1.40	2.6	2.97Se	25	25	18.2	47	38
189	S	General Pub. Util.	38	2.00	5.3	*2.99Se	D5	12	12.7	67	42
6	O	Green Mt. Power	13½	1.00	7.4	1.18Se	D1	7	11.4	85	36
56	S	Gulf States Util.	40	1.60	4.0	2.31Se	5	14	17.3	70	34
22	A	Hartford E. L.	55	3.00	5.5	*4.13Se	D8	12	13.3	73	49
5	O	Haverhill Elec.	34	2.40	7.1	2.67De	2	—	12.7	88	100
21	O	Hawaiian Elec.	44	2.50	5.7	3.04Se	D17	—	14.5	82	36
78	S	Houston L. & P.	56	1.60k	2.9	2.66N	D9	20	21.1	60	46
8	O	Housatonic P. S.	18	1.40	7.8	1.43De	1	—	12.6	98	53
27	S	Idaho Power	38	1.50	3.9	2.29Se	7	7	16.6	65	32
82	S	Illinois Power	29	1.50	5.2	1.88Oc	D5	6	15.4	80	37
43	S	Indianapolis P. & L.	29	1.50	5.2	2.05Se	D1	5	14.1	73	38
20	S	Interstate Power	12½	.80	6.4	.90Se	D15	3	13.9	89	30
33	O	Iowa Elec. L. & P.	27	1.50	5.6	2.00Oc	D13	10	13.5	75	31
39	S	Iowa-Ill. G. & E.	33	1.80p	5.5	2.46Se	D1	3	13.4	74	43
37	S	Iowa Power & Lt.	27	1.60	5.9	2.07Se	1	2	13.0	77	33
32	O	Iowa Pub. Serv.	14	.80	5.7	1.09Se	D4	5	12.8	73	35
13	O	Iowa South. Util.	21	1.28	6.1	1.79Se	D1	8	11.7	72	37
56	S	Kansas City P. & L.	38	2.00	5.3	2.95Se	7	8	13.9	68	34
30	S	Kansas G. & E.	29	1.40	4.8	2.32N	5	12	12.5	60	29
45	S	Kansas Pr. & Lt.	24	1.30	5.4	2.08Se	6	9	11.5	63	31
37	O	Kentucky Util.	24	1.28	5.3	2.06Se	—	9	11.7	62	34
7	O	Lake Superior D. P.	20	1.20	6.0	1.60Se	D5	6	12.5	75	38
98	S	Long Island Ltg.	22	1.20	5.5	1.43Se	D8	6	15.4	84	32
52	S	Louisville G. & E.	29	1.20	4.1	1.69Se	D13	4	17.2	71	41
9	O	Madison G. & E.	43	1.80	4.2	4.28Se	NC	11	10.0	42	50
4	A	Maine Pub. Serv.	16	1.12	7.0	1.54Oc	50	3	10.4	73	33
5	O	Michigan G. & E.	46	1.60b	6.5b	4.04Se	D1	14	11.4	40	37
159	S	Middle South Util.	36	1.70	4.7	2.52Oc	20	4	14.3	67	34
28	S	Minnesota P. & L.	28	1.60	5.7	2.45N	20	6	11.4	65	36
3	O	Miss. Valley P. S.	27	1.40	5.2	2.16N	D1	3	12.5	65	31
12	A	Missouri Pub. Serv.	13	.72h	5.5	1.03N	D2	20	12.6	70	33
6	O	Missouri Util.	21	1.36	6.5	1.85Se	D2	2	11.4	74	32
39	S	Montana Power	47	2.00	4.3	*3.72Se	6	6	12.6	54	37
142	S	New England Elec.	14½	1.00	6.9	1.17Se	D6	0	12.4	85	35
44	O	New England G. & E.	16	1.05	6.6	1.46Se	D6	5	11.0	72	42
45	O	New Orleans P. S.	42	2.25	5.4	2.86Oc	12	0	14.7	79	38
2	O	Newport Elec.	15	1.10	7.3	1.05Oc	D24	4	14.3	105	30
83	S	N. Y. State E. & G.	38	2.00	5.3	*3.06N	5	8	12.4	65	36
244	S	Niagara Mohawk Pr.	30	1.80	6.0	*1.83Oc	D18	4	16.4	98	33
81	O	Northern Ind. P. S.	39	2.00	5.1	3.02Se	5	7	12.9	66	35
139	S	Nor. States Power	17	.90	5.3	1.21Se	1	8	14.0	74	35
9	O	Northwestern P. S.	15	1.00	6.7	1.34Se	D10	3	11.2	75	26
129	S	Ohio Edison	50	2.64	5.3	3.63Oc	D3	9	13.8	73	40
48	S	Oklahoma G. & E.	40	1.90	4.8	2.46Oc	—	9	16.3	77	36
15	O	Otter Tail Pr.	25	1.60	6.4	2.23Oc	—	7	11.2	72	38
471	S	Pacific G. & E.	48	2.40	5.0	3.32Se	D2	13	14.5	72	34
48	O	Pacific P. & L.	29	1.60	5.5	*1.99Oc	NC	8	14.6	80	29
129	S	Penn Power & Lt.	41	2.40	5.9	3.30Se	—	11	12.4	73	28

Annual Rev. (Mill.)		(Continued)	11/24/57 Price About	Dividend Rate	Approx. Yield	Recent Share Earnings	% Increase	Aver. Incr. In Sh. Earns. 1951-56	Price-Earn. Ratio	Div. Payout	Approx. Common Stock Equity
225	S	Phila. Elec.	37	2.00	5.4	2.52Oc	—	6	14.7	79	43
35	O	Portland Gen. Elec.	22	1.20	5.5	1.71N	1	6	12.9	70	36
64	S	Potomac Elec. Pr.	22	1.20	5.5	*1.62Se	8	8	13.6	74	39
83	S	Pub. Serv. of Colo.	43	1.80i	4.2	2.82Se	10	8	15.2	64	38
300	S	Pub. Serv. E. & G.	30	1.80	6.0	2.21Se	D4	—	13.6	82	37
75	S	Pub. Serv. of Ind.	37	2.00	5.4	2.70Oc	10	4	13.7	74	33
29	O	Pub. Serv. of N. H.	16	1.00	6.3	1.34Se	3	13	11.9	75	32
12	O	Pub. Serv. of N. M.	17	.80	4.7	1.15Se	3	7	14.8	70	37
25	S	Puget Sound P. & L.	27	1.36	5.0	*1.78Se	10	10	15.2	76	61
58	S	Rochester G. & E.	29	1.60	5.5	2.23Se	—	10	13.0	72	35
19	O	Rockland L. & P.	19	.90	4.7	*1.05De	9	11	18.1	86	30
8	S	St. Joseph L. & P.	24	1.50	6.3	2.02Se	13	7	11.9	74	35
51	S	San Diego G. & E.	20	.96	4.8	1.41Oc	D6	6	14.2	68	40
8	O	Savannah E. P.	20	1.00	5.0	1.34Oc	D3	28	14.9	75	30
9	O	Sierra Pacific Pr.	23	1.20	5.2	1.95Oc	22	14	11.8	62	27
195	S	So. Calif. Edison	50	2.40	4.8	3.09Se	D3	3	16.2	79	35
43	S	So. Carolina E. & G.	21	1.10	5.2	1.55Se	9	20	13.5	71	36
7	O	Southern Colo. Pr.	13	.80	6.2	1.31Au	5	9	9.9	61	43
228	S	Southern Co.	25	1.10	4.4	1.63N	7	10	15.3	67	32
16	S	So. Indiana G. & E.	27	1.60	5.9	2.33N	22	5	11.6	69	36
7	O	So. Nevada Power	19	1.00	5.3	1.54Oc	10	15	12.3	65	34
1	O	Southern Utah Power	17	1.00	5.9	1.44Oc	2	1	11.8	70	39
3	O	Southwestern E. S.	19	1.24	6.5	1.77N	8	3	10.7	70	28
42	S	Southwestern P. S.	33	1.48	4.5	1.78Oc	4	3	18.5	83	35
26	A	Tampa Elec.	35	1.20	3.4	1.65Oc	2	14	21.2	73	39
146	S	Texas Utilities	45	1.60	3.6	2.53Oc	11	15	17.8	63	38
40	S	Toledo Edison	12	.70	5.8	.98Se	D4	5	12.2	71	30
14	O	Tucson G. E. L. & P.	31	1.40	4.5	2.20Se	18	14	14.1	64	35
122	S	Union Elec. of Mo.	27	1.52	5.6	1.92Je	9	11	13.0	79	35
33	O	United Illuminating	23	1.30	5.7	1.60Se	2	7	14.4	81	48
5	O	Upper Peninsula Pr.	24	1.60	6.7	1.90Se	D3	10	12.3	82	37
43	S	Utah Power & Lt.	25	1.20	4.8	*1.80N	6	9	13.9	67	43
118	S	Virginia E. & P.	26	1.00	3.8	1.48Oc	8	14	17.6	68	39
26	S	Wash. Water Power	33	1.88	5.7	2.44N	8	14	13.5	77	40
132	S	West Penn Elec.	26	1.50	5.8	2.17Oc	1	9	12.0	69	32
64	O	West Penn Power	48	2.40	5.0	3.29Se	1	13	14.6	73	33
11	O	Western Lt. & Tel.	33	2.00	6.1	2.94Se	D3	10	11.2	68	33
26	O	Western Mass. Cos.	40	2.20	5.5	3.22N	4	10	12.4	68	56
105	S	Wisc. El. Pr. (Cons.)	31	1.60	5.2	2.48Se	7	5	12.5	65	40
40	O	Wisconsin P. & L.	25	1.36	5.4	1.99N	8	4	12.6	68	36
37	S	Wisconsin P. S.	21	1.20	5.7	1.64Oc	D8	6	12.8	73	36
		Averages			5.5%			9%	13.8	73%	
		Foreign Companies									
203	S	Amer. & Foreign Pr.	12	$1.00	8.3%	$1.68Je	20%	2%	7.1	60%	47%
149	A	Brazilian Trac.	7	.53n	7.6	2.19De	86	D	3.2	34	73
68	A	British Columbia Pr.	36	1.40	3.9	2.34De	14	27	15.4	60	27
17	A	Gatineau Power	28	1.40	5.0	2.28De	15	15	12.3	61	32
35	O	Mexican L. & P.	11	.50o	4.5	1.67De	D7	62	6.6	84	46
13	A	Quebec Power	28	1.40	5.0	1.99De	15	14	14.1	70	52
54	A	Shawinigan Wtr. & Pr.	24	.68	2.8	1.42De	22	26	16.9	48	39

A—American Stock Exchange. B—Boston Exchange. O—Over-counter or out-of-town exchange. S—New York Stock Exchange. Ja—January; F—February; Ma—March; Ap—April; My—May; Je—June; Jy—July; Au—August; Se—September; Oc—October; N—November; De—December. *Deferred taxes resulting from liberalized depreciation are not normalized. **Calendar year 1955. a—Estimated annual rate. The "A" stock receives stock dividends. b—Also 3 per cent stock dividend December 31, 1956, which is included in the yield. c—Also 2 per cent stock dividend January 10, 1956. f—Also 5 per cent stock dividend August 15, 1956. g—Cash dividends of $2.50 in 1956 included 30 cents extra; 10 per cent stock dividend also paid April 30, 1956. h—Also stock dividend of one share for each 200 shares held September 12, 1956. i—Also 10 per cent stock dividend November 16, 1956. j—Also 10 per cent stock dividend August 31, 1956. k—Also 5 per cent stock dividend December 17, 1956. m—Also 2½ per cent stock dividend January 10, 1956. n—Also 5 per cent stock dividend December 27, 1957. o—Also 5 per cent stock dividend May 1, 1957. p—Also 5 per cent stock dividend March 10, 1957.

What Others Think

Cost of Capital in Rate Regulation

IN the January 2nd issue of PUBLIC UTILITIES FORTNIGHTLY, there appeared in this department a review of an article suggesting fundamental changes in the approach to rate regulation. The basic thesis of that article, by G. Stanley Joslin and Arthur S. Miller, was that the U. S. Supreme Court's decision in the Hope case has not resulted in a thoroughgoing reexamination of utility rate making and that, despite the flexibility afforded by that decision, rate regulation continues to be dominated by a property concept as regulatory commissions continue to rely on the historical formula of a reasonable return on investment.

The *Virginia Law Review*, in which the Joslin-Miller article appeared, also published in the same issue an article approaching the problem of rate regulation from a somewhat different angle. The author, Joseph R. Rose, a professor at the Wharton School of Finance and Commerce, University of Pennsylvania, dwells on one particular aspect of rate regulation that has been given considerable weight since the Hope decision; namely, the cost of capital. In applying the cost-of-capital concept, says Rose, the state commissions have had to face numerous and difficult problems that almost defy solution. Rose's article reviews the legal and economic issues inherent in these problems, suggests an ideal solution, and concludes with an analysis of the relationship between cost of capital and fair rate of return.

Application of the cost-of-capital concept involves a determination of three basic items: a choice of capital structure, the cost of debt capital, and the cost of equity capital. With respect to the choice of capital structure, there are several points of view, Rose points out. The alternatives open to commissions include an ideal capital structure, the actual capital structure, or a capital structure proposed by management.

THE majority of state commissions, Rose says, seek an approximation of an ideal capitalization through use of a hypothetical capital structure. Some commissions adopt the actual capital structure in the absence of unusual circumstances. The New York commission follows this policy. The utilities contend that capital structure is within the discretion of management and that commission intervention is justified only to prevent abuse of discretion. In Rose's view, the majority approach is the proper one. He states:

> . . . The lawful objective of rate regulation is the establishment of rates estimated to yield operating revenues that cover the total cost of furnishing the service, including, of course, cost of capital or fair rate of return. But the

principle is unchallenged that only reasonable costs are allowable for rate making, and it follows that only the reasonable cost of capital is properly includable in allowable expenses. When a commission in determining cost of capital disregards the actual capital structure or a capital structure proposed by management it is no more invading the domain of management than when it disregards unreasonable expenses for labor, fuel, or other productive factors in prescribing rates. A compromise does not change the existing capitalization in such a situation; it simply ascertains the reasonable cost of one of the productive factors—namely, capital—for rate-making purposes. The issue is not whether the actual capitalization should be altered or not but rather what it should be to prescribe reasonable rates. The capital structure has such an impact upon the cost of capital that the regulatory agencies would in large measure lose their power to establish reasonable rates if they were bound to accept either existing capitalization or a capitalization proposed by management when cost of capital or fair rate of return is in controversy.

From the viewpoint of economic principle, there can be no question that the cost of capital should be determined on a capital structure considered economical under existing conditions. In unregulated industries prices of goods and services are governed by present conditions and expectations of the future. The past has no bearing on price determination; it is useful only as a guide to the future. It follows that an actual capital structure which results in either excessive or inadequate cost of capital can have no economic relevance in prescribing rates, and that cost of capital must be established on a capital structure found to be economical at the time of the rate proceedings.

So far as cost of debt capital is concerned, nearly all commissions adopt the actual or historical rather than current cost of debt as the cost of capital attributable to existing indebtedness on the ground that the former is more realistic, Rose explains, adding that current cost is accepted for additional indebtedness contemplated at the date of the rate proceedings or in the immediate future.

"Economic principle requires that the cost of both existing and new indebtedness be determined on the basis of current and future bond yields for the same reason that supports the use of a hypothetical capital structure," the author states. "Past costs are irrelevant for fixing current or future prices. The historical cost of debt capital may be more 'realistic' . . . but only in an arithmetical, not an economic sense. The fact that investors in bonds are limited to the receipt of the contractual interest payments is also without merit as an argument for adoption of the historical cost of debt capital in prescribing future rates; for the contractual relationships do not necessarily govern sound price fixing or rate making."

Determination of the cost of equity capital is by far the most troublesome item in the application of the cost-of-capital concept, Rose continues. Basically, the cost of equity capital is the entire amount of earnings attributable to common stock, which in rate proceedings are customarily reduced to a per share basis in order to compute the cost rate of equity capital. The latter is established by relating earnings per share to the price of stock in the money markets of the nation where utilities obtain their equity capital in competition with other corporate enterprises.

Rose questions whether the estimated

cost rate of equity capital, as represented by the earnings-price ratio, is sufficient to maintain credit and attract capital. He explains:

> . . . It is common practice for utilities . . . to sell stock at less than book value; new equity capital can be raised so long as the stock is sold below market price. The practice does no harm to existing stockholders, because in accordance with the requirements of law they are given rights to subscribe to new issues. For other reasons, however, it may be desirable or even necessary to allow an incremental return in excess of the earnings-price ratio. A new issue of stock may often be reasonably expected to depress the price of stock; this possibility (market pressure) must be considered in estimating the future cost rate of equity, and an allowance made for it. Allowance must also be made for expected costs of financing. But inclusion of these items is justifiable not to maintain the price of stock above its book value, but to make certain that the estimated cost rate of equity is sufficient to enable the utility to attract capital.

Rose points out that the cost rate of equity capital as represented by the earnings-price ratio is not necessarily the most economical one. One of the most important factors influencing the market price of stock is the proportion of earnings paid out in dividends; that is, the dividend pay-out ratio. "The reason for the importance of dividend pay-out is that there are investors who attribute greater value to cash dividends than to earnings retained in surplus," Rose explains. "Obviously all corporations must retain some portion of their earnings; but when investors are motivated by dividends, then at any given time there is an optimum dividend pay-out which tends to minimize the earnings-price ratio and consequently the cost of equity."

Rose groups investors in common stocks into three categories: first, those who have little or no interest in dividends; second, those anticipating increased earnings and also receipt of dividends; and third, those looking forward to the receipt of the existing dividends and who are concerned with earnings only in so far as they are adequate to assure payment of dividends. Few utility investors are to be found in the first category, says Rose; some are in the second; and many are in the third category, investors in the American Telephone and Telegraph Company furnishing the classic example of this group.

When a utility has paid a fixed dividend for many years, during periods of depression and boom and of high earnings and low earnings, it is reasonable to assume that investors purchase its stock expecting only the continued payment of the dividend, Rose continues. When the market experience of AT&T stock is employed to determine the cost rate of equity capital of an operating company in the Bell system, it is assumed that the price of its stock is governed by its dividend. But even when the cost rate of equity is ascertained on the basis of the dividend, it is not the dividend but the earnings that constitute the cost of equity capital, and the earnings-price ratio is still the cost rate of equity. This is because some portion of earnings must be retained in surplus, and the true cost of equity is total earnings available for common stock. The difficult question, Rose points out, is what proportion of earnings should properly be retained in surplus.

Rose acknowledges that there are perils in the practice of establishing a dividend pay-out differing from the actual

pay-out and that any estimate of the appropriate pay-out must be made with caution and based on the best evidence. "But it should none the less be made," he states, "because where stock is purchased for a fixed dividend, pay-out has a substantial effect on its price and on the cost rate of equity. It cannot be safely assumed that the actual dividend pay-out at any given time tends to minimize the cost rate of equity."

THE solution offered by the author is based on the thesis that there is for a given utility, at any given time, an ideal capital structure that minimizes the cost of capital. It is possible to ascertain such an ideal capital structure when the assumption is made, as in the case of AT&T, that stock is purchased for a fixed dividend. Rose suggests that the assumption may be entirely accurate for stocks of electric, telephone, and water utilities. The validity of the thesis also assumes that the pay-out ratio depends in large measure on the ratio of earnings-available-for-interest to interest payments; that is, the interest coverage. The larger the interest coverage the larger the proportion of earnings that can safely be paid in dividends. The larger the dividend pay-out, the higher is the price of the stock and the lower the earnings price-ratio, or the cost rate of equity. Both interest coverage and dividend pay-out, in other words, are associated with the cost of equity. Given coverage, the cost rate of capital, and the interest rate which is ascertained empirically for each coverage, it is possible to compute debt ratio and therefore the total cost of capital. The minimum cost can thus be ascertained, and the debt ratio or capital structure with which it is associated may be said to be ideal. Rose explains that

> . . . a different pay-out may be applicable to an electric light and power utility, a gas utility, or even an independent telephone company. In fixing cost of capital for such enterprises, a proper dividend pay-out must be selected on the basis of evidence. Great care must be exercised, particularly in projecting the pay-out into the future. It is always difficult to estimate a proper margin for surplus. An estimate should be made only after close scrutiny of past experience and provision should be made for both expected and unexpected charges to surplus. When these requirements are met, however, the method can be employed with great advantage, because it reveals the relationship between the principal variables involved in the problem of determining cost of capital and because it introduces a large measure of objectivity in its solution.

Turning to the proper relationship between cost of capital and fair rate of return, Rose notes that commissions commonly fix fair rate of return in excess of cost of capital. The practice is based on the argument that acceptance of cost of capital as the allowable return signifies slavish adherence to a mathematical formula which excludes the exercise of judgment and therefor produces an arbitrary result. Allowance of an increment in excess of cost of capital is thought to introduce a flexibility in the rate-making process that is considered desirable.

ROSE doubts that this is either sound law or good economics. He notes that nearly all states provide in their regulatory laws that the burden of proof shall be on the utility in proceedings involving a rate increase and that commission finding of facts be supported by competent evidence. Consequently, says the author, it is contrary to law for a commission to establish an allowable return more than the cost of capital after it has made findings of

capital structure, cost of debt capital, and cost of equity capital, and derived from these findings cost of capital. Such a return, Rose states, amounts to a gratuity by the measure of its difference from cost of capital, and it cannot be justified by invoking such a nebulous factor as "judgment."

"What must be remembered," Rose concludes, "is that the objective of determining cost of capital on the basis of market experience is to find the competitive cost of one of the productive factors used in furnishing the utility service; *viz.*, capital. When that cost is found, then from the viewpiont of economic principle, and therefore sound rate making, no additional allowance should be made in establishing the cost of the service to consumers. It is, however, undeniable that present techniques need to be improved, that more information is required concerning all the components of cost of capital, and that rate making can never be an exact science because public utility rates are fixed for the future. . . ."

It should be recognized that Professor Rose's concept of an ideal structure has the weakness of being predicated on the infallibility of hindsight. One may question whether it was the intent of state legislatures to place their regulatory commissions in the position of back-seat drivers and to transfer to the commission the judgment and discretion in financial operations that are normally associated with the prerogatives of management. Some state commissions are presently exercising their own judgments as to the amount of debt a utility company ought to have incurred in the past in an effort to justify a lower rate of return than would appear to be justified on the facts before it.

Sometimes the same commissions, however, are unwilling to take the same flexible attitude with respect to "normalizing" hypothetical tax payments in order to allow utilities to get the advantage of temporary savings resulting from accelerated tax depreciation which means lower actual tax payments during the early years of property life. Only those taxes actually paid may be allowed as operating expenses under such an approach. The inconsistency of hypothecating a debt structure to attain an "ideal" economic operation, while refusing to hypothecate a tax allowance, which would only give a utility the same advantage enjoyed by all other business taxpayers, is a regulatory anomaly which approaches the standard of heads-I-win, tails-you-lose.

—F. M.

"Cost of Capital" in Public Utility Rate Regulation. By Joseph R. Rose. *Virginia Law Review*, Vol. 43, No. 7, 1957. Single reprints obtainable for a small charge. University of Virginia, Clark Memorial Hall, Charlottesville, Virginia.

Gas Industry Reviews 1957 Gains

The gas utility and pipeline industry, advancing to new heights on all fronts in 1957, is confidently building for the future because millions of Americans are depending on gas for present and future needs. Robert W. Otto, president of the American Gas Association, reports in a year-end review that the industry is expressing its confidence in specific terms with current construction expenditures of $2 billion a year, 97 per cent of it earmarked for natural gas facilities. Otto expects that expenditures will total $8.7 billion for a four-year period through 1960, compared with $5.3 billion spent in the previous four-year period (1953-56) and

$4.7 billion expended in the period '49-'52.

The average number of gas utility customers during 1957 was 30,385,700, an increase of 2.9 per cent over the 1956 average of 29,536,600 customers. The year-end total was 30.9 million customers.

Utility customers receiving natural gas averaged 27 million during the past year, a gain of 1.8 million customers and an increase of 7 per cent over the 25.2 million natural gas customers served during 1956.

Manufactured and mixed gas customers averaged 3.2 million during 1957, for a decline of 21.2 per cent as former users of these fuels continued to convert to natural gas.

The total of gas utility customers is expected to increase steadily to an estimated 33.5 million—31 million of whom will be residential customers—on the average during 1960, and then to an average of 38,250,000 by 1965, including 35.5 million residential users.

WITH gas replacing oil as the leading heating fuel for U. S. homes, house-heating customers of gas utilities now aggregate 18 million, an increase of 8 per cent over the previous year, and should approximate 20.5 million by the end of 1959. Gas-heated homes represented about 36 per cent of the nearly 50 million occupied homes and apartments as of mid-1957.

The industry's 18 million house-heating customers represent 63 per cent of all residential gas consumers. A year earlier, with 16.7 million house-heating customers, the proportion was 60 per cent.

Total sales by the gas utility industry in 1957 climbed to a record high of 74.36 billion therms. This represented a gain of 2 per cent over the 72.9 billion therms sold in 1956.

Natural gas sales reached a new high of 72.02 billion therms, up 3.2 per cent over the 69.8 billion therms sold a year earlier. Manufactured and mixed gas sales aggregated 2.28 billion therms, dropping 25.2 per cent from last year to reflect the increasing conversion to natural gas.

Revenues from gas utility and pipeline sales to ultimate consumers advanced to an all-time high of $4,014,000,000, a gain of 4.2 per cent over the previous record of $3,853,000,000 a year earlier. Natural gas revenues increased 7.4 per cent to $3,676,000,000, compared with the 1956 record of $3,422,000,000. Manufactured and mixed gas revenues were $322 million, a drop of 22 per cent from $412 million in 1956.

PROVED recoverable reserves of natural gas reached an all-time high of 237.8 trillion cubic feet at the start of 1957. Even though net production climbed to a record of 10.9 trillion cubic feet in 1956, a net increase of 14.1 trillion cubic feet was attained through new discoveries and other reserve additions totaling 25 trillion cubic feet. During the past decade, additions to reserves have been twice as great as the amount of gas produced.

Ultimate recoverable reserves in the United States alone (not taking the potential sources of supply in Canada and Mexico into account) have been estimated by the U. S. Bureau of Mines at approximately 1,000 trillion cubic feet, while a recent study by the Chase Manhattan Bank estimates a minimum supply of 1,200 trillion cubic feet.

Natural gas reserves are concentrated in six states—Texas, Louisiana, New Mexico, Kansas, Oklahoma, and California—which have combined reserves of 221.5 trillion cubic feet, or 93 per cent of the U. S. total.

In order to permit greater year-round utilization of pipeline capacities and fa-

cilitate sales by distributing companies to consumers for heating use, the industry is rapidly increasing its underground storage facilities.

At the beginning of 1957, there were 188 underground storage pools and 7,432 wells in operation in 20 states, primarily in the Middle Atlantic and East North Central areas, with an ultimate capacity of 3.4 trillion cubic feet.

The amount of gas actually in storage reached a new high of 1.5 trillion cubic feet at the end of 1956, with a maximum daily output of 8 billion cubic feet. It was estimated that underground storage facilities represented 20 per cent of the industry's total requirements for its biggest demand day of the year.

TOTAL capital investment in underground storage fields in 1956 reached $443 million, up from $395 million a year earlier. The industry spent an additional $54 million for such facilities during the past year, the AGA president reported.

Moving gas from the wellhead to the burner tip requires an intricate network of pipelines stretching to every corner of the country. Approximately 21,000 miles of mains were added in 1957 to bring the total mileage to 545,700. The gas industry has extended its mains some 200,000 miles in the past ten years, and within the next ten years the pipeline network is expected to spread to more than three-quarters of a million miles.

The gas industry doubled its research, development, and promotion activities in the field of gas air conditioning in 1957. The AGA research program set its sights on at least three experimental units for demonstration to interested manufacturers by the end of the year. Two units—the Swiss open cycle sorption system and the improved adsorption system, were demonstrated late in the year. The free piston engine-compressor unit will be shown early in 1958.

The Threat That's Greater than Sputnik

"*No satellite launching by other powers could possibly be as great a 'cold war' victory as runaway inflation in the United States. . . .*

"*Powerful inflationary forces are still with us, and the need for new defense spending adds to them.*

"*We* CAN *check inflation and keep our economy strong—if we all work together as aroused citizens. There's a job for each and every one of us to do. For example—*

"*Each of us should encourage those who represent us in government to make every effort to balance new expenditures for defense with less spending in other areas.*

"*Employers and employees together need to realize that our economy cannot afford wage and price increases unless they are based on greater values for the customer or greater productivity of the worker. All of us need to produce more in order to earn more. For we all have a stake in a sound economy in support of our defense effort.*"

—EXCERPT *from statement by Institute of Life Insurance.*

The March of Events

AEC Sets Up a New Office

THE Atomic Energy Commission took the first step last month toward establishing a separate office to regulate the expanding atomic energy industry.

The commission announced that it was making organizational changes to separate its promotional and regulatory functions in the field of civilian uses of atomic energy. A separate division will regulate atomic firms and another will promote the use of atomic energy.

The reorganization was evidence of the fact that as the atomic industry grows, the commission will be thrust more and more into the job of regulating the uses of radioactive materials.

For a year some of the senior Democrats on the Joint Congressional Committee on Atomic Energy have been proposing that the commission's promotional and licensing functions be separated. They saw the two functions as sometimes contradictory.

Regulated Rates on Natural Gas Called Feasible

NATURAL gas rates can be regulated on a public utility-type of cost-of-service basis without hurting future supplies, an expert in petroleum economics recently told the annual meeting of the American Economic Association.

Dr. Joel B. Dirlam, a senior consultant with the New York consulting firm of Boni, Watkins, Jason & Co., Inc., said that despite present gas price controls, exploration activity of oil and gas industry has been adequate to satisfy the economy's need for gas supplies. Gas producers currently are seeking to decontrol the price they charge pipeline operators or, failing that, to have rates reflect actual market prices.

Dr. Dirlam noted that there is little evidence that, to date, the price of gas has affected its supply, either in the short or long run.

California

Parking Lots, Utilities?

A MOVE to regulate parking lot charges by establishing the parking lot industry as a public utility was made recently by a Los Angeles councilman.

The action followed a request of Mayor Poulson to the council last month that corrective legislation be adopted on parking lot operations because "of what are reported to be exorbitant charges for park-

ing in the downtown shopping area during this Christmas season."

It was moved that the city attorney be requested to determine whether or not parking lots can be placed under control of the city board of public utilities and transportation. The motion was referred to the council police and fire committee.

Indiana

Co-op Plans Opposed

AN Indiana dispute has developed from the plans of 18 southern Indiana rural electric co-ops, called the Hoosier Co-operative Energy, Inc. They want to go into the power-generating business, and they have asked federal money lenders for $50 million to make their dreams come true.

The federal agency which must pass on the co-operatives' request is the Rural Electrification Administration. Over the past twenty-two years, REA has loaned $3.6 billion to help local groups, mostly rural co-ops, bring the hard-working kilowatt to country dwellers. But no earlier proposal has generated the heat of Hoosier's $50 million request, larger by far than any loan the agency has ever granted.

R. A. Gallagher, president of Public Service Company of Indiana, claims the proposed co-op plant would duplicate his company's privately owned facilities, which now generate most of the power distributed by the co-ops. The Indiana Chamber of Commerce contends the scheme "is purely a case of asking the taxpayers to subsidize construction of a generating plant."

Though some of the power would go to farmers, much of it, at least initially, would go to a proposed $7 million aluminum ingot plant, to be built by Richards & Associates, Inc., the Carrollton, Georgia, owner of Southwire Company—if Hoosier Co-operative obtains its loan.

Governor Harold Handly views the co-op goals as an assault by "the propagandists of Socialism against private enterprise."

Nebraska

Power Allocation Fixed

NEBRASKA has been allocated 150,000 kilowatts of summer firm power, subject to certain requirements, "as soon as we can bring it in," Nebraska Public Power System Executive Director Dewey J. DeBoer said.

Assistant Interior Secretary Fred Aandahl notified DeBoer and the NPPS planning board that the power would be available subject to the construction of adequate transmission facilities, the installation of two generators at the Garrison, North Dakota, dam, and a Bureau of Reclamation-Loup River Public Power District agreement, DeBoer said.

One-third of the power has been consigned to NPPS and another third will be used by the Omaha Public Power District when it negotiates an interchange to wheel the power to its transmission system.

The other 50,000 kilowatts, in doubt until the announcement, will go either to NPPS or to Consumers Public Power District. Both have indicated they would like to build a line capable of transmitting the power to Nebraska.

DeBoer said it will be up to present negotiations to see who builds the line and gets the power.

"We hope to get the line built by the start of the 1959 irrigation season," DeBoer said.

New York

New York State Electric Rate Rise Studied

THE public service commission has indicated it will investigate a $4,225,000-a-year increase in electricity rates of New York State Gas & Electric Company to determine its justification.

The commission scheduled a public hearing for January 14th in Albany. The company has proposed to raise its rates February 1st.

At the same time, the commission authorized Pennsylvania Gas Company to raise its rates to New York customers by $247,700 a year, effective on one day's notice to the public. The company serves about 20,000 customers in Jamestown and nearby communities.

New York State Gas, headquartered in Ithaca, serves about 440,000 electric consumers in widely scattered sections.

It has proposed to boost its system-wide minimum monthly charge to $1.10 and increase rates in varying amounts for large consumers. The minimum charge now ranges from 75 cents to $1.

In support of its proposal, the company told the commission it needed more revenue to offset increases in operating expenses since its last rate boost in 1952.

The company also reported it had spent more than $144 million for electric plant facilities from 1951 through 1956 and will have spent another $55 million by the end of 1958.

The rate increase granted Pennsylvania Gas is $173,800 less than the company originally sought in May, 1956.

Pennsylvania Gas said it was forced to raise rates because it had to buy more gas from southwestern producers and because operating expenses had increased.

Oklahoma

Court Clears Way for Hydro Project

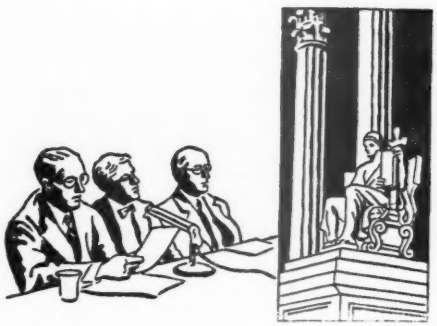
AFTER the Oklahoma supreme court upheld a power exchange contract between the Grand River Dam Authority and the Public Service Company of Oklahoma, Governor Gary (December 17th) saw the possibility of a construction start sometime during 1958 on the authority's proposed Markham Ferry dam on the Grand river. Validity of the controversial contract was unanimously upheld by the high state court, which ruled that the 1957 Oklahoma legislature specifically authorized such a contract. Gary said the unanimous decision strengthens the authority's position and will aid in the sale of bonds. He added, however, that actual sale of the bonds and awarding of construction contracts will be a slow process.

West Virginia

Rate Increased under Bond

UNITED FUEL GAS COMPANY announced last month it had placed in effect in West Virginia a new rate schedule that will raise the average customer's bill about $1.46 a month. The action was taken as provided by law and pending further action by the state public service commission. Bills will be collected under bond, subject to refund if the new rates are eventually denied or reduced by the commission.

The increased rates are designed to bring the company the remainder of $4,067,000 in additional annual revenues. Rates yielding about $1.5 million of that sum were placed in effect last July 17th under an interim order of the commission.



Progress of Regulation

Trends and Topics

Public Benefit or Absence of Public Detriment When Property Transfer Is Approved

COMMISSION approval or disapproval of transfers of public utility property, by sale, consolidation, or merger, depends upon a finding as to the effect on the public. Not all authorities agree as to whether there must be a positive public benefit or merely an absence of public detriment. Some say the transaction must be in the public interest. Some say that it must be consistent with the public welfare.

Absence of Public Detriment

The Missouri commission, in authorizing an electric company to sell its office building under an agreement for a lease back, raised the question as to whether a positive public benefit must be shown or whether approval should be granted if there will be no detriment to the public interest. Re Kansas City Power & Light Co. Case No. 13,821, November 18, 26, 1957. The commission said that the state law requires authorization of any sale or transfer by an electric utility and, according to a judicial ruling, a utility should be allowed to sell its property unless such sale "would be detrimental to the public interest." Reference was made to a decision by the state supreme court reported in 5 PUR NS 230. In that case the commission had approved an acquisition of stock and the court, upholding the commission order, said that to deny the owners of property the right to sell would be to deny them an incident important to ownership of property. A property owner should be allowed to sell unless it would be detrimental to the public.

The Maryland court of appeals has adhered to the principle that it is not the province of the commission to insist that the public be benefited as a condition to a change of ownership but its duty is to see that no such change would work to the public detriment. This principle was stated in a case involving Electric Public Utilities Company (PUR1928C 3), and it was reaffirmed in a more recent decision, in 1953, when a county contested an appli-

cation by Washington Gas Light Company and its subsidiaries for approval of the transfer of assets and rights (100 PUR NS 78).

A Pennsylvania court said that the commission may not consider the question from a managerial viewpoint as that power has not been delegated to it by the legislature (23 PUR NS 491). The court reversed a commission order denying authority to sell distribution lines and facilities.

The Indiana commission, in an early decision, said that it was doubtful if the commission could withhold approval of a sale unless it was shown that the public would be adversely affected or the transaction would be against the public interest (PUR1920F 242). In a later case the commission, in denying authority for the transfer of telephone properties, said that the matter was a promotion scheme to exploit the properties by lawyers and financiers, and was not in any sense a bona fide purchase by a telephone operator desiring to give to the particular business his time and money and serve its patrons. The commission seriously doubted whether the consolidation under the plan proposed would be more efficient or cheaper to patrons than its present management (PUR1927C 577). The commission made findings on various matters, such as the purchase price, which led to the conclusion that the transaction would be detrimental to the public interest.

Consistency with Public Interest

In the words of the Massachusetts department, "it is universally held that a statute requiring a finding that a given transaction is consistent with the public interest is satisfied by a showing that there is nothing in the proposed transaction which is inimical to the public interest." The department, after citing decisions in support of this statement, was convinced that it was its clear duty to consent to a proposed consolidation unless it could find some evidence that the public interest would be harmfully affected (100 PUR NS 65).

A transaction involving the acquisition of property by a gas company, said the Wisconsin commission, must be held to be consistent with the public interest if it is not contrary to the public interest (63 PUR NS 158). The commission must determine that a proposed sale will not be detrimental to the interests of the customers and the investors (65 PUR NS 161).

The Washington commission, in authorizing a merger, referred to a rule providing that applications should be denied if the commission finds, upon examination of any application and exhibits, or upon a hearing, that the proposed transactions are not consistent with the public interest. The commission said that since the rule was stated in the negative, the applications might not be denied unless the commission could find that the proposed transactions were not consistent with the public interest. The commission quoted from a decision by a federal court involving Pacific Power & Light Company (34 PUR NS 153), where it was said that the phrase "consistent with the public interest" does not connote a public benefit to be derived or suggest the idea of a promotion of the public interest. The thought conveyed is merely one of compatibility (100 PUR NS 129).

Must Serve the Public Interest

The Maine commission disapproved property transfers which would result in several water companies being consolidated. The commission said it was not in full accord with the Maryland court decision (PUR1928C 3), mentioned above. A large majority of commissions throughout the country, both prior to and since the Maryland case was decided, the commission continued, had taken the view that before granting authority for consolidation or merger it should be made to appear that it would be in the interest of public welfare or would to some extent serve the public interest; otherwise petitions in such proceedings would be denied (PUR1929E 136, 158). The commission referred to decisions by the New York commission on this question of public benefit. It should be noted, however, that the commission not only determined that there would be no public benefit, but it went further and found that the consolidation would be detrimental to the public.

The New York commission has asserted authority to require an affirmative showing that a proposed consolidation would be in the public interest (59 PUR NS 396). In one case it was held that the public interest requires disapproval unless it be shown that there is "a good and sufficient reason" for granting approval and that consumers "will be benefited" (PUR1928E 781, 786). In a more recent case the New York commission denied without prejudice authority to acquire the controlling interest in another company, for failure to sustain the burden of proving that the transaction would be "in the public interest" (7 PUR3d 179).

Review of Current Cases

Rate Increase Denied to Electric Company with Earnings above Capital Cost

NARRAGANSETT ELECTRIC COMPANY failed to persuade the Rhode Island public utility administrator that it should be permitted to increase electric rates for intrastate service. Pointing to increased costs resulting from inflation, the company asked for a 9.4 per cent increase in electric revenues.

The administrator determined, however, on the basis of the substantially original cost rate base which it allowed, that existing rates were producing a rate of return of 5.84 per cent. The cost of money to Narragansett was found to be 5.39 per cent. While the difference seemed substantial, the administrator thought that 5.84 per cent was reasonable, recognizing that a fair rate of return is something over and above the mere cost of money.

Original Cost Rate Base

Of three rate bases submitted by Narragansett, the administrator found that the lowest one, based on book cost, which was substantially equivalent to original cost less depreciation, was the fairest standard for appraising rates. A trended original cost rate base was rejected with the observation that it assumed a piecemeal reproduction of existing property at high present price levels, while actually

the same units of property might not be reproduced at all because of technological improvements.

In place of the company's book depreciation reserve, found to be inaccurate, the administrator adopted an estimate of actual accrued depreciation based on average service life, mortality dispersion, salvage expectancy, and age distribution of plant balances. Consistent with this allowance, the company was permitted to claim remaining life annual depreciation expense to recoup a deficiency in its depreciation reserve.

The administrator refused to include the unamortized portion of acquisition adjustments, despite a contention by the company that it should be included because it represented money which was properly invested in the business. It was not shown, however, that the unamortized dollars of acquisition adjustments actually represented any benefit to the consumer.

Unfinished construction not in service and upon which the company was capitalizing interest was not allowed in the rate base. However, land held for future use was included even though it would not be used in the immediate future. Contributions in aid of construction were disallowed. A working capital allowance of forty-five days was reduced by the amount available from tax accruals. The average of materials and supplies for the test year, 1956, was allowed.

Separations

A study of separation of cost between interstate and intrastate operations presented by a witness for commission counsel was considered the most reasonable of three studies offered. The witness classified property between jointly used property and that used solely in interstate or intrastate service. The jointly used property was further classified into demand, energy, and customer components. Joint operating expenses were analyzed into fixed and variable components. All plant segregated to demand and all fixed operating expenses were allocated between interstate and intrastate operations on the basis of the witness' capacity responsibility factors. Variable operating expenses were allocated between interstate and intrastate operations on the basis of energy separation factors.

The principal difference between the separation study of this witness and the study presented by the company was in the capacity responsibility factors used for separating jointly used plant and fixed operating expenses. The company allocated such costs on the basis of demand responsibility factors, while commission counsel's witness used capacity responsibility factors. It was pointed out by this witness that Narragansett operated as an integrated part of the New England power system and that during the test year the company contributed substantial reserve capacity to the system in excess of Narragansett's proportionate share of the total system reserve.

The capacity separation factors derived by the witness were 25.2 per cent applicable to interstate and 74.8 per cent applicable to intrastate operations. Corresponding demand separation factors derived by the company were 18.7 per cent interstate and 81.3 per cent intrastate. The energy separation factors used by the witness for commission counsel for the separation of variable costs were only slightly different from the factors used by the company.

General plant, other than that assigned to production, transmission, and distribution, was allocated by the witness on the basis of the allocation of supervised operating expenses, while the company sought to assign this item directly to intrastate service. General expenses, except

for employees' relief and pensions which were separated as a percentage of allocated payroll, were allocated between interstate service on the basis of all supervised expenses, exclusive of fuel, since general expenses are incurred mostly from the over-all supervision of operating forces and thus are related to supervised expenses.

Gas Rates Allowed

The administrator granted an increase in the company's gas rates as requested, upon determining that the higher level would afford a rate of return of only 4.5 per cent on a rate base of average original cost less depreciation.

But permission to bill gas customers on a bimonthly basis was denied. The administrator thought the inconvenience to customers would outweigh any economies that might accrue to the company. *Re Narragansett Electric Co. Docket No. 635, September 30, 1957.*

Memphis Gas Decision Upsets FPC Procedure for Filing and Review of Contract Rate Changes

THE United States court of appeals has ruled that in order for the Federal Power Commission to review contract rate changes, under § 4(e) of the Natural Gas Act, the seller must show consent of its contract customers. Consent of customers to the mere act of filing under § 4(d), with the prospect of commission review under § 4(e), is not enough; there must be consent to the rate level itself before the changes can even be filed. The court's holding overturns the commission's long-standing construction of the two sections. The commission indicated an intention to seek review of the court's decision.

The commission had accepted for filing under § 4(d) new schedules offered by United Gas Pipe Line Company. The pipeline's contract customers had not consented to the level of the new rates, though apparently some had consented to the act of filing new schedules with the intent that they be reviewed by the commission under § 4(e).

The commission suspended the new rates, and while hearings were in progress the Supreme Court handed down its decision in United Gas Pipe Line Co. *v.* Mobile Gas Service Corp. (12 PUR3d 112) which held that a seller of gas could not unilaterally increase contract rates simply by filing a new rate schedule with the commission. Customers of United, including Memphis Light, Gas, and Water Division, an indirect customer, thereupon moved the commission to prohibit the new rates from becoming effective, to reject the increases, and to order appropriate refunds. They claimed that the filing was a unilateral attempt by United to increase contract rates and that the commission had no jurisdiction to process them under § 4(e). Upon denial of the motions, the customers appealed.

Orders Not Interlocutory

The commission contended that its orders were interlocutory and not subject to judicial review. The court thought this contention was without merit, observing that this case came to it in substantially the same posture in which the Mobile case was presented for review.

United urged that Memphis, an indirect customer, was not aggrieved under § 19(b) and therefore had no standing to appeal. Memphis purchased gas from Texas

Gas Transmission Corporation, which was in turn a direct customer of United. The commission had approved an agreement between Texas Gas and Memphis whereby customers of Texas Gas would reimburse it for any increase in gas cost resulting from the hearings then in progress. Thus Memphis would be immediately affected by any increase awarded to United. This immediate impact, said the court, was sufficient to give Memphis standing to appeal.

Contract Consent Asserted

The court indicated that the instant case, except for one aspect, is "a close copy" of the Mobile case. United's contracts contained a provision whereby all gas would be paid for under the seller's rate schedule "or any effective superseding rate schedules." The presence of this provision raised the question whether it constituted the customer consent necessary to give the commission jurisdiction to review United's new schedules under § 4(e). The commission thought it did, asserting that the contracting parties intended to grant United the power to make changes in rates pursuant to § 4(d), while retaining the right to oppose such changes in proceedings before the commission to test their reasonableness.

Even if the commission's statement of the parties' intent is correct, said the court, it does not determine whether the commission has jurisdiction to accept the new schedules for filing under § 4(d) and to review them under § 4(e), where the rate level itself has not been agreed upon by the parties.

Filing and Review Power

Section 4(d) is merely a requirement that the commission and the public be formally notified of any change made in a contract for the sale of gas by a natural gas company. The notice contemplated by this section is notice that the contracting parties have reformed their contract. Only after the parties have negotiated privately a new price term, said the court, does the commission in any way become involved with the rate-changing process.

The negotiated agreement, which the seller must bring to the commission with its filing under § 4(d), must be as specific in its terms as the agreement to the rate schedule sought to be superseded. Upon proper filing, the commission may then undertake to review the new rates under § 4(e).

Since United had not obtained the consent of its contract customers to the actual rate itself, the court held that the commission had no power to accept the new rate schedules under § 4(d) and therefore could not review the new rates pursuant to § 4(e). The case was reversed and remanded to the commission with directions to reject the filed schedules and to initiate proceedings for refunds. *Memphis Light, Gas, and Water Division et al. v. Federal Power Commission, No. 13,666, November 21, 1957.*

Filing of Rate Change As Initial Rate Rejected

THE Federal Power Commission declined to reconsider a secretarial letter-order which rejected as an initial rate of a natural gas company a new contract negotiated with a present customer. It was accepted, however, as a proposed change in rates. The company held a certificate covering gas sales from specific acreage to

the contracting customer and had an effective rate schedule applicable to such sales. Together with an application for a new certificate, the company sought to file the new contract as an initial rate. Neither the certificate nor the filing could be granted, even though the contract which was filed as the original rate schedule contained a current termination date. It was noted that the company had not obtained permission to terminate service under the existing rate schedule.

Commissioner Digby, dissenting, thought that the certificate application and the rate schedule filing should at least have been set for hearing to determine whether or not the action was an increase in an existing rate or an initial rate. The fact that the land description or geographical area in the new filing may be the same as that in the old contract would not be controlling, said the commissioner. *Re Sun Oil Co. Docket No. G-13059, November 8, 1957.*

Gas Extension Refund Based on New Customer Revenues for Four Years

In a rehearing proceeding, the Louisiana commission rejected a gas company's plan to require a realtor, who desired gas service in a new development, to advance funds sufficient to pay for mains only, with a subsequent refund of one and one-half times estimated annual revenue from each new customer added to the line. Upon adding a customer the company would supply a service tap, a meter, and a regulator at an aggregate cost of $55.50 and refund $84 (one and a half times estimated annual revenue of $56 from each new customer). The company offered, in effect, to spend a total of $139.50 in order to gain a new customer.

The company had two regular methods of calculating refunds under its extension policy. Under one plan the depositor would receive a lump sum refund equal to one and one-half times the estimated annual revenue for each new customer. Under the other, 20 per cent of the annual revenue from each new customer would be refunded each year for a period of ten years (twice the annual revenue). Neither of these plans impressed the Louisiana commission.

The commission reaffirmed its original order which provided for a deposit covering the entire cost of the extension, including services, meters, and regulators. Refunds for each added customer would be based on the estimated annual revenue for a period of four years, less the actual cost of the service, meter, and regulator. This plan contemplated an expenditure of $224. An appropriate allowance would be made against the deposit for initial customers. *Louisiana Pub. Service Commission v. Arkansas Louisiana Gas Co. Order No. 7375, Docket 7363, October 24, 1957.*

Accelerated Depreciation Accounts Revised to Show Only Actual Taxes

The Maine commission authorized Central Maine Power Company to revise its accounting procedure relating to accelerated depreciation under § 167 of the Internal Revenue Code of 1954, in view of a recent decision of the state su-

preme court upholding a commission ruling (17 PUR3d 452) to the effect that only actual taxes may be charged as an operating expense.

In 1955 the commission prescribed the following procedure: (1) The tax reduction resulting from accelerated depreciation should be credited to account "Reserve for Deferred Federal Income Taxes" with a concurrent charge to "Provision for Deferred Federal Income Taxes"; (2) during the period when annual depreciation allowances under the accelerated depreciation method would be less than under the normal straight-line method, the company would charge the resulting difference to "Reserve for Federal Income Taxes" with a concurrent credit to "Provision for Deferred Federal Income Taxes." In view of the court and commission decisions, the company was authorized to discontinue including in operating expenses the amount of net decrease or increase in federal income taxes resulting from the use of accelerated depreciation, and also to adjust such amounts as it had already included in its accounts during the year 1957 and to transfer to earned surplus amounts that have been accumulated to January 1, 1957.

The company was also required to report to the commission the amount of the annual tax savings due to the use of accelerated depreciation and the total accumulation to date. *Re Central Maine Power Co. U. No. 2246, December 4, 1957.*

Discontinuance of Passenger Ferry Service Not within ICC Jurisdiction to Permit Abandonment

THE federal district court has ruled that the Interstate Commerce Commission lacks authority to permit the New York Central Railroad Company to discontinue passenger ferry service across the Hudson river between Weehawken, New Jersey, and New York city. The railroad had applied for leave to abandon this service as part of an over-all effort to put an end to its West Shore passenger service because of alleged serious financial losses, although it would retain its profitable freight operation.

Statutory Authority to Permit Abandonment

The sole source of authority claimed by the commission and urged by the carrier was § 1, paragraph 18, of the Interstate Commerce Act. This provides that no carrier by railroad shall abandon all or any portion of a line of railroad, or the operation thereof, without obtaining a certificate from the commission. The court said there was no doubt about the validity of the applicable principle derived from the language of that section. It is that the commission has no right to permit only a partial discontinuance of operations over a particular railroad line.

The commission and the railroad insisted that the present situation involved the complete abandonment of a portion of a line of railroad and not simply a discontinuance of the passenger service of that portion of the line. Ferries are included within the definition of "railroad" as evidenced by § 1(3) of the act, which provides that the term "railroad" includes "ferries used by or operated in connection with any railroad."

The court said that if the contemplated stoppage of the Weehawken passenger ferry effects the complete abandonment of a line of railroad or portion of a line of railroad, the commission's action was

proper. If it is merely the elimination of part of the service of that line, the commission has no justification for assuming control of the proceeding.

Partial Discontinuance Not a Complete Abandonment

The court referred to various commission and court decisions in which there is a distinction made between partial discontinuance of service and complete abandonment of a line or a portion thereof. It then pointed to the fact that the single franchise under which the railroad operates across the Hudson river called for a unified passenger and freight service. The railroad had also sought authority from the New Jersey and New York commissions to discontinue passenger traffic over its West Shore line, the branch concerned.

The court rejected arguments that the freight carriage bore no relation to the passengers coming in on the same line and who continued their forward movement across the harbor to New York city, just as did the freight. The commission had stated that the ferry terminals, docks, vessels, and other facilities and services were maintained physically separate from the car float and lighter equipment and other facilities used in transporting freight across the river. It said that the services and materials provided for the freight and passenger operations were entirely distinct from each other. These facts, said the court, failed to indicate any substantial disassociation of the ferry from its rail member. The distinction between the ferry boats used for transporting passengers and the lighters and barges used for moving freight, said the court, is no more significant in determining whether this is only one line of railroad than would be the distinction between freight and passenger cars. *New Jersey Board of Pub. Utility Comrs. et al. v. United States et al. Civil No. 559-57, December, 1957.*

Rate-fixing Power Retained by Municipality

THE Louisiana supreme court, after a series of cases involving two rehearings, enjoined the state commission from entertaining applications of a corporate gas supplier for rate increases. The city of Monroe, which had the right to prescribe rates at which gas should be supplied its inhabitants, conferred by special legislation, was held not deprived of the right to fix such rates by the constitutional provision vesting in the state commission authority to fix rates for local and statewide public utilities.

The constitutional provision granting the state commission rate-fixing jurisdiction, held the court, provided that the commission could not exercise control of any local public utility vested in any town or city at the time of the statute's enactment. Therefore, the commission had no jurisdiction over the rate-making power within the corporate limits of the city of Monroe.

Fixing of rates for public utilities, pointed out the court, either by contract or by compulsion, is within the police powers of the state. The granting of the power to fix rates without reservation or restriction carries with it the right to fix rates by either method. The statute dealing with the right of the commission to exercise rate-fixing power over public utilities was held applicable to all local public utilities except those municipally owned or those over which municipalities were exercising power to supervise, regu-

late, and control within their limits, as constitutionally recognized, and which right and authority had not been surrendered to the commission in accordance with law. *City of Monroe v. Louisiana Pub. Service Commission, 97 So2d 71.*

Sale of Office Building under Lease-back Contract

KANSAS CITY POWER & LIGHT COMPANY obtained permission from the Missouri commission to sell its 32-story Kansas City office building under an agreement for the company to lease back about fourteen floors, which will be adequate space for its future requirements. The commission did not find that the sale will affirmatively serve the public interest but merely determined that it will not be detrimental to the public interest. The Missouri supreme court, it was noted, long ago rejected a contention that the commission may not authorize a transfer of utility property unless it affirmatively finds the transfer in the public interest.

A recent study showed that the company could achieve economies by decentralization and transfer of some of its operating and service departments from the downtown district of Kansas City to service centers in outlying areas. Construction of such outlying centers has reduced the company's need for downtown space. *Re Kansas City Power & Light Co. Case No. 13,821, November 18, 1957.*

Finding of Contract Rate Unreasonableness Is Prerequisite to Abrogation

THE Kansas supreme court affirmed two lower court judgments setting aside commission orders. In effect, the court held that one party to a gas rate contract could not unilaterally change existing rates by filing a new schedule with the commission, Moreover, the commission could not abrogate existing contract rates merely by approving a new schedule filed by one of the parties. An express finding of unreasonableness of existing rates is a prerequisite to abrogation.

The Kansas Public Utility Act, pointed out the court, expressly recognizes that gas rates to individual customers may be set up by private contract, by providing that such contracts shall be filed for approval by the commission. The act indicates no purpose to abrogate private rate contracts as such. Where a contract is filed with the commission and the prescribed rates go into effect, a presumption of reasonableness arises if the commission does not investigate their unreasonableness.

However, continued the court, there is a significant difference between a finding of the unreasonableness of existing contract rates and a finding of the reasonableness of the public utility's proposed rates. In order for contract rates to be abrogated upon the initiative of the company, the commission is required to investigate and make an express finding of unreasonableness.

The general rule is that the state's power to modify or abrogate private rate contracts is incident to its power to regulate public utilities, the exercise of which is conditioned upon the public interest. Ab-

sent such interest, abrogation of contracts may not be effected merely to relieve one or the other of the parties from unprofitable or injudicious undertakings. *Central Kansas Power Co. v. Kansas State Corp. Commission, 316 P2d 277.*

Sale Properly Disapproved Where Best Price Not Obtained

EVIDENCE amply supported a commission order disapproving a proposed sale by a railroad company of land which had been abandoned as unusable for railroad purposes, the New Jersey superior court ruled. The order of disapproval was appealed by the prospective purchaser.

The railroad had entered into an agreement with the purchaser to sell the property for $46,000. Apparently in reliance on this agreement, he secured the removal of several title encroachments, though his commitments in this respect were later admitted to be of independent profit to him.

After the purchase agreement was undertaken, an offer of $65,500 was received as a result of a "most inconspicuous" newspaper advertisement of the property. The company decided, however, to stand by its commitment on the first offer and petitioned for commission approval.

The commission found that the proposed sale price was not the best price obtainable. It also determined that the brief newspaper advertisement amounted to an attempt to "circumvent and avoid the purposes of" a commission regulation requiring newspaper advertisement of the property. The court agreed. The intent of this regulation, the court noted, is to induce publicity of a proposed sale of utility property in order to insure that it will be sold for the best price obtainable. *Re West Jersey & Seashore R. Co. 135 A2d 35.*

CAB's Allowance of Limited Intervention Affirmed

THE Civil Aeronautics Board's renewal of a temporary extension for interchange service and, in the same proceeding, refusal to grant another airline a comparative consideration of its application, allowing only limited intervention in the hearing, was affirmed by the United States court of appeals. The court could find no error in the board's choice of treating the application as one involving primarily an interchange problem rather than a request for new route certification. Comparative consideration of the appellant's application, held the court, would demand an enlarged proceeding, even construed in its most limited context.

In determining whether a 192-mile temporary extension for interchange service should be renewed, the board should not be forced to consider anew the problem of through air service between Texas and the West coast, with additional transcontinental implications. An existing certificate holder, pointed out the court, could not by the mere filing of applications for routes transform a limited inquiry into a massive consideration of the whole of American air transportation.

The court believed the CAB possessed discretion in determining the degree of intervention to be allowed an applicant for an air route seeking to displace an existing

interchange agreement and substitute a unilateral proposed agreement, in addition to requesting a new route extension. The right to a comparative hearing should be affected by the nature of the pending proceeding and the effect of unlimited intervention, said the court, as well as the exclusiveness of the applications. It would be complete folly if the statutory right to a hearing required the board to change the fundamental purpose of a pending proceeding.

The court considered the problem typically one for agency judgment. Since the board was not unreasonable in its limitation of the proceeding, the court would not interfere, notwithstanding that the power to do so might exist. *Eastern Air Lines, Inc. v. Civil Aeronautics Board, 247 F2d 562.*

FCC Errs in Statement of Reasons

THE United States court of appeals remanded for clarification a Federal Communications Commission order denying an unsuccessful applicant for a television permit a rehearing on an order granting the permit to a mutually exclusive applicant.

The parties and the court should not be left to guess, with respect to any material issue or to any group of minor matters that may have cumulative significance, which of several alternatives the commission had in mind in overruling exceptions, said the court.

Although the federal commission is not required to make a specific ruling on each minor exception taken by the unsuccessful applicant, where the commission's statement of reasons came to little more than that, for one reason or another, all the exceptions not granted were overruled, the statement of reasons was inadequate.

The commission had also denied leave to show by affidavits that in the first months of operation the successful applicant had failed to perform what it had promised. Commission counsel argued that only interim operation was involved, but the record did not make it clear that this was the theory on which the commission had refused to reopen the hearing. The court thought the commission should clarify its ruling in this respect, and so directed. *Radio Station KFH Co. v. Federal Communications Commission, 247 F2d 570.*

Cease and Desist Order against Freight Forwarder

THE United States district court dismissed an action to set aside an Interstate Commerce Commission order directing a freight forwarder to cease and desist from maintaining an unlawful terminal area. The fact that the freight forwarder, by its own admission, served terminal areas of greater size than those authorized by the regulation was held sufficient legal support for the commission's order. The court commented that the justness and reasonableness in the forwarders serving a more extensive terminal area was not properly before the commission in the enforcement proceeding. Such question should have been presented by an appropriate application in the proceeding in which the regulation had been promulgated. *Acme Fast Freight, Inc. v. United States, 154 F Supp 239.*

Order Eliminating Rate Preferences to Co-operatives Modified

AFTER considering additional evidence pursuant to court order, the Indiana commission modified its order of December 14, 1956, which, in turn, had amended a rate order (12 PUR3d 509) in so far as it related to electric rate preferences to rural membership corporations. It did so by striking out the provision eliminating preferential rate classifications for rural electric membership corporations.

The December 14th order held that the preferential classification which had been established and justified on the basis of making it possible to establish and develop farm and rural uses of electricity could not justifiably be applied to energy for resale to large industrial or commercial users. The matter arose when the court before which an appeal from a rate case was pending sent back to the commission some evidence which it deemed materially different from that offered before the commission.

The membership of the commission has entirely changed since that time. The new commission, pointing out that the problem involves many complications and clashing interests, said that there are factual data which should be developed and carefully studied before determination of this matter can be fairly made as a policy standard of the commission. It did not believe that sufficient facts had been brought out to an adequate degree.

The matter of rate preferences was not dealt with in the briefs or in the oral arguments, nor had the commission focused the attention of the interested parties upon the fact that it was concerned over this problem. Consequently, the commission concluded that it could not leave the original modification order unchanged.

The commission cautioned, however, that this action was not intended as expressing in any way its view as to what conclusions might be reached on the question after having before it all material facts and after making a full analysis and study of the matter, aided by a full showing and argument on the issues involved. *Re Indiana Pub. Service Co. No. 26077, August 23, 1957.*

Commission Properly Assesses State for Cost of Relocating Utility Facilities on Highway

THE Pennsylvania superior court sustained the state commission's power to impose upon the state highway department a portion of the cost of relocating utility facilities ordered removed from a public highway in connection with a railroad crossing improvement. The commission had ordered the highway department to pay 60 per cent of the relocation costs and assessed the remaining 40 per cent against an electric company and a gas company, the owners of the facilities. The highway department appealed.

The court observed that utility companies using highway rights of way do not obtain any property rights in them. They have no constitutional right to demand from the state the cost of relocating facilities on a highway. Their use of the highways is subject to the superior rights of the public.

Although the state may compel utilities

to remove or relocate their facilities at their own expense, it may pay the cost of relocating utility facilities provided the intent is expressed by statute. The refusal to pay for relocation of facilities, other than railroads, is based on the theory that since utilities are not required to pay for the use of the highway, the state has no obligation to them upon ordering facilities to be relocated.

Statutory Apportioning Power

The two utility companies contended that the state had by statute authorized the commission to determine, in crossing improvement cases, what portion of the relocation expense should be borne by the state and to assess the amount to the highway department.

Under a Pennsylvania statute the "expense of such construction" of crossing improvements is to be borne by the utilities, municipalities concerned, or by the state in the proportions fixed by the commission. The fundamental question before the court was one of statutory construction.

It was held that "expense of such construction" included the cost of necessary relocation of utility facilities in a crossing improvement.

The highway department contended that the assessment violated a constitutional provision restricting the motor license fund to highway construction purposes. Since, under the court's interpretation of the word "construction" the relocation expense would be a part of the authorized construction cost, the assessment would not violate this provision.

The court ruled that the commission did not abuse its discretion in apportioning the relocation cost 60 per cent to the highway department. It was noted that motorists would be the direct beneficiaries of the relocation, while the ratepayer would receive no benefit. On the other hand, said the court, the commission may not ignore the fact that the highways are primarily for the traveling public and that their use by utilities is a subordinate use permitted by the state without cost except for permit fees.

Dissent Denies Statutory Power

Judge Rhodes, dissenting, felt that the majority opinion would permit an unconstitutional diversion of the motor license fund. He thought the legislature had given the commission no authority to impose upon the state any part of the expense of relocating utility facilities on a public highway.

Utilities use the highways for their own convenience without cost, he observed, and they should bear their own expenses. The judge commented that the majority decision was judicial legislation and would have the effect of accomplishing the purpose of a legislative bill which had been recently vetoed by the governor. *Pennsylvania Dept. of Highways v. Pennsylvania Pub. Utility Commission, November 18, 1957.*

Regulated Taxicab Competition Deemed Desirable

THE Colorado commission granted a certificate to operate taxicab service over objections of existing certificate holders in the city of Pueblo. The evidence showed that the applicant was able and willing to provide the proposed service, and that one of the protestants was insolvent and providing poor service.

Commenting that it was its firm desire and long-standing policy to protect the

common carrier who has dedicated its property to public service, the commission pointed out that it could not continue to do so when such a policy would defeat the very objective of public service. Such would be the end result of a refusal to recognize inadequacies of existing service rendered by one of the protestants. The commission deemed it necessary to have the service of at least two aggressive, public-minded operating taxicab companies.

It should be obvious, said the commission, that a doctrine of well-regulated competition can result only in better service to the public. Quality of service is improved as a result of a self-desired achievement of more and increased business, stimulated by brisk competition rather than by permitting a situation which enables a common carrier to vegetate and to render minimum public service only in fear of the shadow of the commission and the prods of the enforcement agents.

Such philosophy of regulation by competition, said the commission, is not always applicable nor necessarily the proper norm to be employed in all situations. The doctrine, however, was most apt in the present circumstances.

There was a demand for at least two high-quality taxicab companies. There was apparent future need arising from a continued healthy growth. Two highly qualified competing carriers in a market large enough and possessing sufficient prosperity to support both, would bring about competition, regulated to prevent it from becoming ruinous, and a consequent improvement in public service. *Re Burress et al. (AA Taxicab Co.) Application No. 15557, Decision No. 48937, October 24, 1957.*

Other Recent Rulings

Fixed Ceiling Remains. The California commission refused to remove a $2 fixed ceiling from a gas company's fuel oil escalator clause in certain interruptible tariff schedules where the effect would have been to raise interruptible rates and cause many interruptible billings to be determined by limiting firm rates, which the commission considered undesirable. *Re Pacific Gas & E. Co. Decision No. 55614, Application No. 38668, September 24, 1957.*

Commuter Fares Raised. Southern Pacific Company obtained authority from the California commission to increase commuter fares in the San Francisco area on a zoned basis, though the company will continue to operate commuter service at an out-of-pocket loss. *Re Southern P. Co. Decision No. 55707, Application No. 38951, Case No. 5234, October 22, 1957.*

Assessment of Crossing Signal Cost. Overruling a commission assessment against a state road agency, the Michigan supreme court held that a railroad must bear the entire cost of installing flashing signals and half-road gates at a crossing since the commission was not given clear statutory authority to assess any of the cost against the agency. *Washtenaw County Road Commissioners v. Michigan Pub. Service Commission, 85 NW2d 134.*

Permanent Financing. Idaho Power Company, requiring permanent financing of short-term debt incurred for construction, secured authority from the Federal Power Commission to issue $15 million of 30-year bonds at a price of 100.92 per cent with a coupon rate of 4¾ per cent, together with a common stock offering of about $7 million. *Re Idaho Power Co.*

Docket No. E-6781, November 7, 1957.

Short-term Note Issue. Florida Power Corporation, requiring capital for construction purposes pending permanent financing in mid-1958, obtained authority from the Federal Power Commission to issue $21 million of promissory notes to a group of banks on condition that the interest rate would not exceed one-quarter of one per cent above the prime rate in New York city at the time of issuance. *Re Florida Power Corp. Docket No. E-6783, November 8, 1957.*

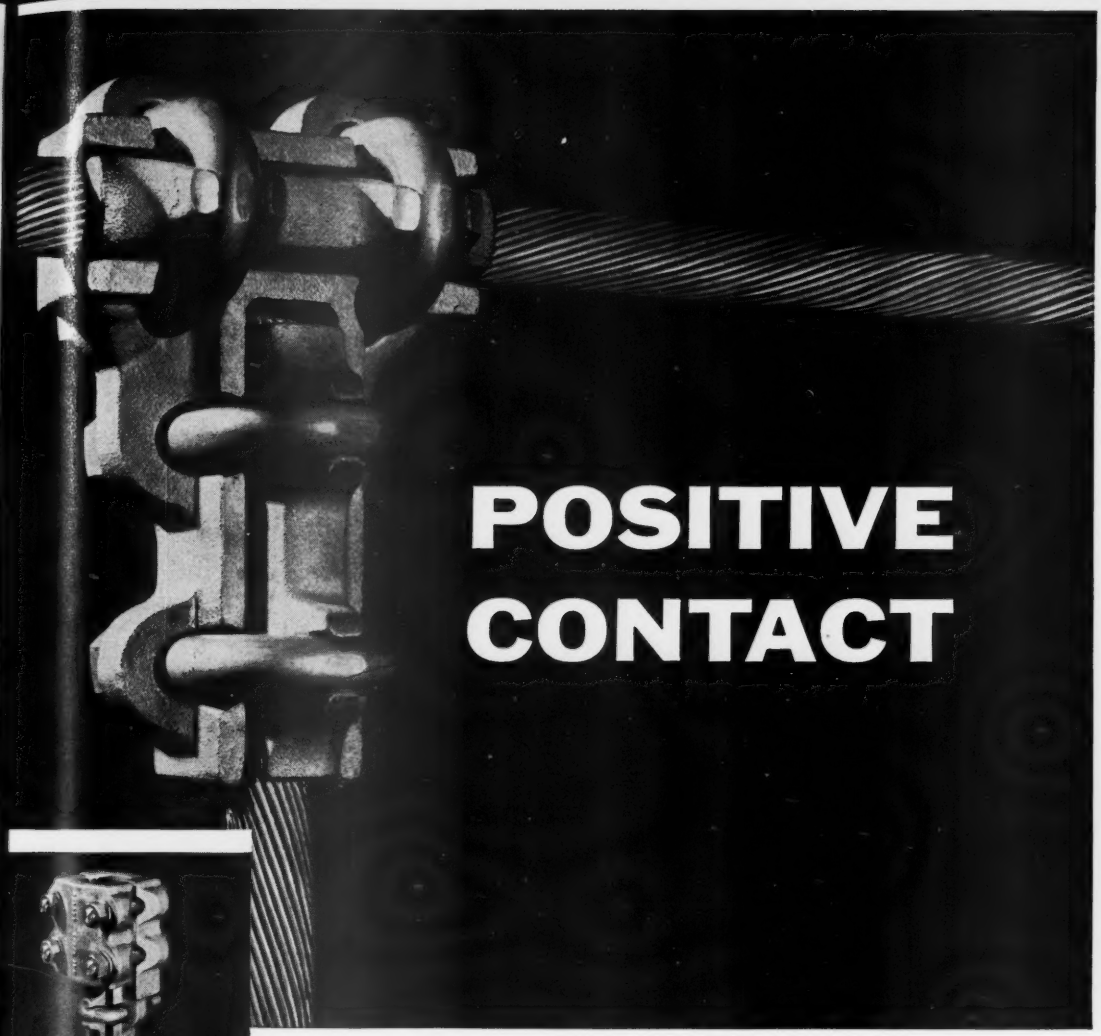
Common Stock Ownership and Use of Equipment. The Michigan supreme court held that evidence of some common ownership of stock of an intrastate contract motor carrier of petroleum and petroleum products and stock of a common carrier, and the common use of equipment by such carriers, did not justify setting aside a commission order authorizing the contract carrier to extend operations on the theory that the common carrier owned and controlled and so dominated the contract carrier that operations of the contract carrier were in fact those of the common carrier and, hence, would not conform with the statutory definition of a contract carrier. *Yankoviak v. Michigan Pub. Service Commission, 85 NW2d 75.*

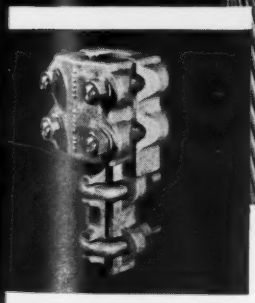
Reparation for Excessive Charge. The California commission found that the amount charged by a railroad for shipments of rotary-cut lumber which exceeded the board-foot rate of planed or sawn lumber should be refunded as excessive, where the single difference was in the method of cutting, except that valuable rotary-cut forest products, like veneer used in the manufacture of furniture, were excluded from the application of board-foot rates. *Martin Bros. Box Co. of California v. Northwestern P. R. Co. et al. Decision No. 54790, Case No. 5592, April 2, 1957.*

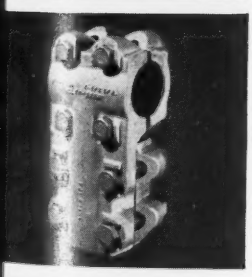
Livestock Transportation. The California commission held that transportation in interstate commerce exempt from federal regulation, like livestock transported by motor vehicles engaged solely in such use, is subject to the state commission's minimum rate tariffs. *Re Sanzberro (Sanzberro Livestock Transp. Co.) Decision No. 54794, Case No. 5770, April 2, 1957.*

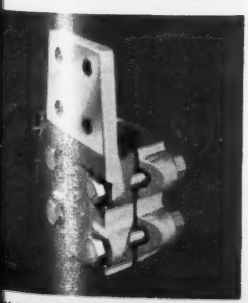
Unauthorized Operation Enjoined. The United States district court granted an Interstate Commerce Commission petition to enjoin a corporation from operating as a motor carrier in violation of the Interstate Commerce Act where the evidence sustained the commission's contention that the corporation was a contract carrier rather than a private carrier. *Interstate Commerce Commission v. Asphalt Supply Co. 152 F Supp 559.*

Demurrage Not Storage Charges. The United States district court held that an Interstate Commerce Commission order prohibiting railroads from allowing more than seven days free time for unloading boxcars at ports had not modified a railroad's tariff calling for payment of storage charges beginning twenty days after arrival of the grain cars at port so as to entitle the railroad to recover storage charges beginning on the eighth day after arrival, since the order related to demurrage charges for detention of rolling stock, not to storage charges for grain. *Western Maryland R. Co. v. Commodity Credit Corp. 154 F Supp 508.*









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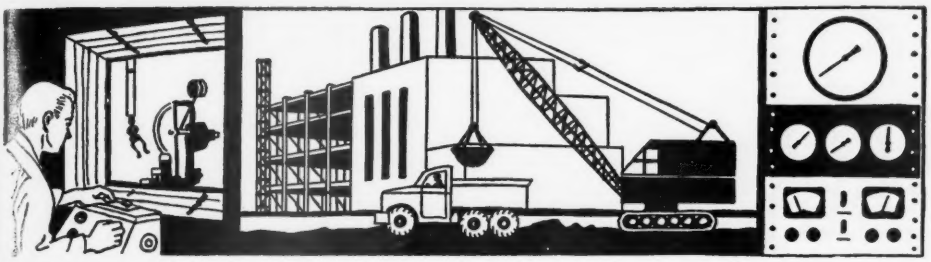


Industrial Progress

) Million Program Planned By AGE System

ord $190-million will be spent onstruction by the American d Electric System during 1958 third year of the AGE System's cedented five-year expansion m. Previous record expendi- as $166-million in 1957.

E President Philip Sporn said, new construction budget em- es the growth pattern of the state territory served by the System. The continuing influx industry and the expansion of g industry in this territory, d with increased usage of elec- especially in home heating, are rincipal components of this pattern," he continued, "and sponsible therefore for the size expansion program."

pointed out that electric energy n the AGE System in 1957 are ed to be 21½-billion kilowatt- —the largest one-year sale by a electric company in the his- f the industry.

the $190-million in the 1958 about $107-million will be spent ntinuing construction or com- of 1,800,000 kilowatts of new ting facilities. Other big shares 1958 budget are slated for ission lines and stations, $39- , and distribution lines and sta- 38-million.

AGE System's $800-million ion program for the five-year 1956-60 is larger than its pre- en-year program. In the decade 946 through 1955 the AGE invested almost $784-million facilities. By the end of the program in 1960, AGE thus ve invested a total of $1,584,- 0 in the 15 years since World .

of the 1,800,000 kw to go on by 1960 is scheduled for 1958. Four 225,000-kw units to be completed this year include a unit at Ohio Power Company's Muskingum river plant in Ohio, two units at Appalachian Electric Power Company's new Clinch river plant in Virginia, and a unit at Ohio Power's new Kammer plant in West Virginia.

(Two other 225,000-kw units at Kammer plant are being built for and will be owned by Ormet Corporation, formed by Olin Mathieson Chemical Corp. and Revere Copper & Brass, Inc. Ormet is constructing a major aluminum plant at nearby Clarington, Ohio.)

The coming year also will see continuing construction on the world's largest electric power generating units, each of 450,000-kw capacity. Both of these units are slated for completion by 1960. One is located at the Indiana & Michigan Electric Company's new Breed Plant in Sullivan County, Ind., and the other at the 600,000-kw Philip Sporn Plant, Graham Station, W. Va., jointly owned by Ohio Power and Appalachian.

At the end of 1957, the AGE System had a total generating capability of 4,585,000 kw. By the conclusion of the current expansion program in 1960, the AGE System capacity will be 6,365,000 kw—or 8,532,000 horsepower.

Construction Set At $5.8 Million In CPPD's Budget

A $5,826,540 construction budget for 1958 was approved recently by Consumers Public Power District's board of directors.

R. L. Schacht, CPPD general manager, pointed out to the board that the budget's construction money includes $2,143,900 for work on local electric distribution systems; $1,868,040 for power transmission lines; $326,385 for revamping rural lines and for the building or improvements of sub-stations, Consumers' power plants and for the purchase of equipment.

The budget estimates the 1958 income at $17,549,823. President Mark T. Moore, of Kearney, told the board that these figures covered all operations, both in the Eastern System (the Eastern two-thirds of the state outside of Omaha) and the Western System (the Ogallala - Scottsbluff - Chadron area).

Atlantic City Electric to Spend $88,000,000 on Construction

ATLANTIC City Electric Company will spend nearly $88,000,000 for new construction to supply anticipated growth in Southern New Jersey during the next five years. This represents the largest construction program in the company's history. The preceding comparable period amounted to $72,000,000.

In his year-end report and forecast for the coming year, Bayard L. England, president of the company, said about $39,000,000 of this expenditure would be allocated for new generating equipment, including an additional 81,000-kw unit at Deepwater generating station, near Pennsville, N. J., to serve anticipated growth in residential electric use and expansion of industry in the company's eight county area.

Mr. England said several reliable barometers of business in Southern New Jersey indicate the present, steady trend of growth, development and improvement will continue through 1958, 1959 and 1960. He predicted that by 1960 the population of the area should increase to 640,000.

3 Million Telephones Added By Bell System in 1957

"GROWTH of the Bell System in 1957 was very large although the rate

(*Continued on page* 28)

BEST BURNE
BIG BOILERS

...C-E Tilting, Tangential Burne

Nearly 600 C-E Boilers with an aggregate capacity of well over 300-million pounds of steam per hour are now in service proving the advantages of firing with C-E Tangential Burners. And another 75 units are under construction or on order. The more important of these advantages are:

BETTER COMBUSTION

Tangential firing is fundamentally the best method of firing any fuel – coal, oil or gas – particularly in big furnaces. Here's why:

1. **The extreme turbulence created by impinging flame streams of adjacent burners assures the most effective mixing of all the air with all of the fuel to produce the most rapid and complete combustion.**

2. **The swirling, rotating travel of combustion gases fills the furnace cross-section and utilizes the heat absorbing wall surfaces most effectivelv.**

SUPERHEAT CONTROL

Virtually all tangential burners in large C-E utility boilers are of the vertically adjustable (tilting) design. This feature provides, in addition to the exceptional combustion efficiency inherent in tangential firing, a degree of superheat temperature control which cannot be achieved with any other firing method. Here's how:

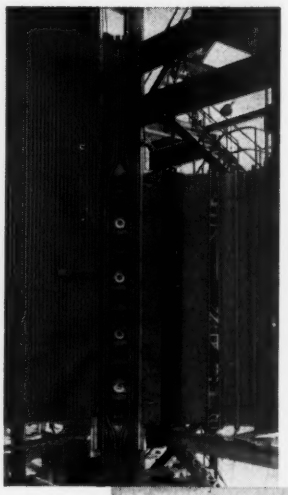
1. **If steam temperature goes too high, the C-E Tilting, Tangential Burner nozzles *automatically* tilt downward. More furnace wall surface becomes effective. Gas temperature to superheater surface is lowered. *Steam temperature comes down.***

2. **Conversely, if steam temperature drops below that efficient for the turbine, nozzles tilt upward, sending hotter gases to the superheater. *Steam temperature goes up* — automatically.**

As a result, the minimum gas temperature necessary to assure proper superheat is maintained. There is little need for desuperheating . . . minimum use of spray water . . . less chance of fouling turbine bl Turbine availability is higher . . . efficiency is tained.

In the most important areas of performance, t fore, the tangentially fired unit has established *in service* over a period of many years as the method of firing for big boilers. More recently it similar success in smaller oil and gas fired unit capacities as low as 50,000 lbs of steam per hour.

A new catalog, PC 8, gives many more details. we send you a copy?



C-E Tangential Burners are now shop assembled with adjacent furnace tubes in place. The illustrations below and at left clearly indicate the resulting advantages in transportation, handling and installation.

EFOR

▲ **The versatility of the tangential burner is well illustrated by this rather special design, made for a wide variety of fuels. This burner has nozzles for coal, oil, coke oven gas and — at the bottom — blast furnace gas. The latter is stationary—the rest are adjustable.**

◀ **This view of the firing floor of a large tangentially fired C-E utility boiler shows the clean-cut, uncluttered appearance which is typical of units of this type.**

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Good Everywhere

(Continued)

of growth was not as fast as in
Frederick R. Kappel, preside
American Telephone and Tele
Company said in a year-end state

"The System added nearly 3
telephones in 1957 and more th
million are now in service. Lon
tance conversations were up 7 pe
over 1956. Today 91 per cent of
telephones are dial-operated an
dialing of long distance as well as
calls is growing rapidly. Some
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assistance of an operator, and
lion can dial directly to nearby p

"To provide the new fac
needed for growth and moderniz
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One of the important events o
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ready so heavily used that we a
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ready in 1959.

"Looking ahead, although
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still be very large.

"The long-term outlook is tha
phone services must be widel
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fast-growing country. Under
circumstances we foresee the nee
continuing heavy construction
will require new capital in the
from a billion to a billion and
dollars a year."

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From Delta-Star Electric Di

DELTA-STAR Electric Di
H. K. Porter Company, Inc., h
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uminous Coal Industry to ablish Center in Pittsburgh

bituminous coal industry, major sers, and companies which sup- naterials and equipment to the ndustry have joined in an effort ablish a major coal research cen- Pittsburgh to be operated by ituminous coal industry.

. A. A. Potter, president of inous Coal Research, Inc., the nal research association for bitu-minous coal, which will have the responsibility for operating the new facility, said that this development climaxes several months of cooperative planning by executives of the coal industry and major Pittsburgh industrial companies which are financially affected by the progress of coal research.

Dr. Potter's announcement followed a decision by the Board of Directors of Bituminous Coal Research, Inc., to consolidate the industry's research facilities in Pittsburgh. The decision was reached after Pittsburgh industry indicated its intent to support the effort with capital funds if Pittsburgh were the chosen location. The consolidation will combine the present coal-industry operated laboratory in Columbus, Ohio, the laboratory and administrative headquarters in Pittsburgh, Pa., and the organization's fiscal offices now located in Washington, D. C.

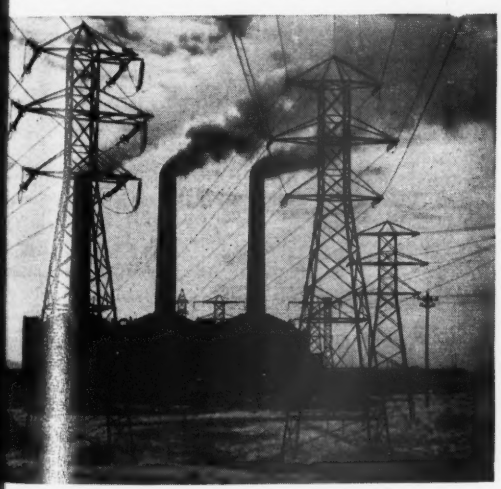
The Allegheny Conference on Community Development, he said, cooperated in arranging meetings between executives of the coal industry and Pittsburgh industrial companies and heartily favors the establishment in Pittsburgh of a research center for one of the nation's basic industries.

The bituminous coal research facility, according to the Regional Industrial Development Corporation, will be an important unit in the industrial research frontier, comprising about 80 research laboratories, which has been built up in the Pittsburgh area. It will be a focus of reference on technical progress related to coal, not only for the coal industry, but for governmental groups, educational institutions, and for those industries which will profit by the development of improved methods and processes of handling and using coal.

The program at the new research center will include basic research to fill in large gaps in the knowledge of the origin, physical structure and properties, and chemical behavior of coal. The activities will emphasize the development of improved coal utilization methods and equipment.

This broad objective will encompass preparation, transportation, handling, and storage of coal; its use as electric utility fuel; and more efficient utilization in the production of industrial steam and for space heating. Investigations will be carried out on sub-

(*Continued on page* 30)



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jects related to coke production and the use of coal by the iron and steel and non-ferrous metal producing industries. Research will be conducted also in the fields of gasification, chemical and other process uses of coal.

Consumers Power to Spend $100,000,000 in 1958

CONSUMERS Power Company will invest more than $100,000,000 in 1958 on expansion and improvement of its electric and natural gas service facilities in Outstate Michigan, according to an announcement by President Dan E. Karn. The total for 1957 was about $108,000,000.

The 1958 schedule totals $60,000,000 for electric projects, $20,000,000 for gas department expansion plans and about $20,000,000 more for other expansion and improvement projects including office and service buildings.

Construction of the 500,000 kilowatt Dan E. Karn plant, near Bay City, will be continued with the first of two units scheduled for production in 1959 and the second in 1960. An additional 156,250 kilowatt unit at the company's John C. Weadock plant, also near Bay City, will go into service early in 1958 and is the eighth unit at this steam electric plant.

An important new electric project will be the beginning of construction of a steam-electric generating station at Port Sheldon on Lake Michigan, near Grand Haven.

The company's present electric generating capacity of 1,856,000 kilowatts will be increased 49 per cent to 2,760,000 kilowatts by the addition of the units scheduled for completion in the four years 1958-61.

Major gas department projects include further improvement of facilities at the Overisel natural gas field near Allegan, Michigan, acquired in 1957, and including pipeline construction to connect this field to the company's gas system.

Mr. Karn said that the company has a backlog of some 155,000 requests from customers for natural gas for space-heating purposes. The addition of facilities at Overisel enabled the company to grant permits for 20,000 additional space-heating customers in the gas service area during the latter months of 1957.

C. & P. Tel to Spend $2,400,000 In D. of C. Expansion

THE Board of Directors of the Chesapeake and Potomac Telephone Company appropriated $2,400,000 for plant additions and improvemer the District of Columbia, at their lar monthly meeting in Decemb

H. Holmes Vogel, vice presid charge of the Washington Com said that this appropriation wou used on a number of projects req to meet the demand for telep service.

There were 578,989 telephon service in the District of Colum the end of November, which is a crease of 13,265 over the same n last year.

Equipment-Hauling Traile Doubles As Meeting Room

AN equipment-hauling trailer, w doubles as a meeting room on wh is at work for The Cleveland El Illuminating Company.

Employees of the company's and Industrial Section of the M ing and Underground Departme convinced they've just scratche surface of useful jobs their new t can do in the months ahead.

Originally the vehicle was purc for the task of transporting a de fier unit which draws moisture air from oil in 80,000-volt u ground cable. Shortly after acqu the new trailer unit, section empl determined it had other practical in addition to the equipment-t porting need. Thus was born the of using rolling stock to carry munications to Cleveland Electri ployees on the job.

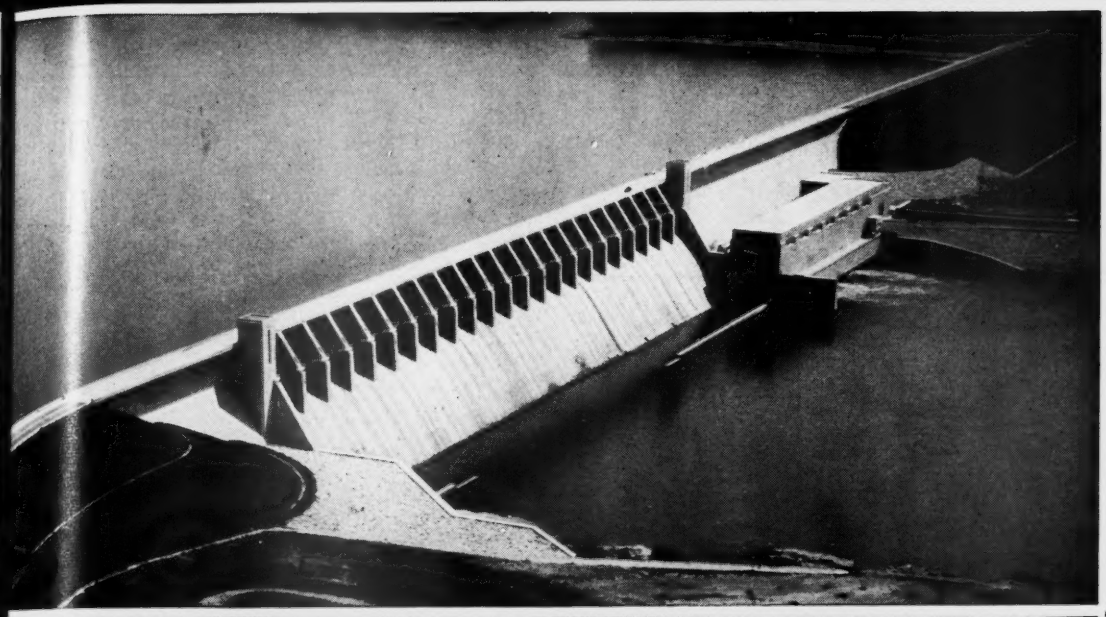
For instance, the trailer mak ideal gathering spot for talks or t tical demonstrations and is ide a mobile stockroom. Materials c loaded in the seven-foot-by-thir foot vehicle and issued on the jo

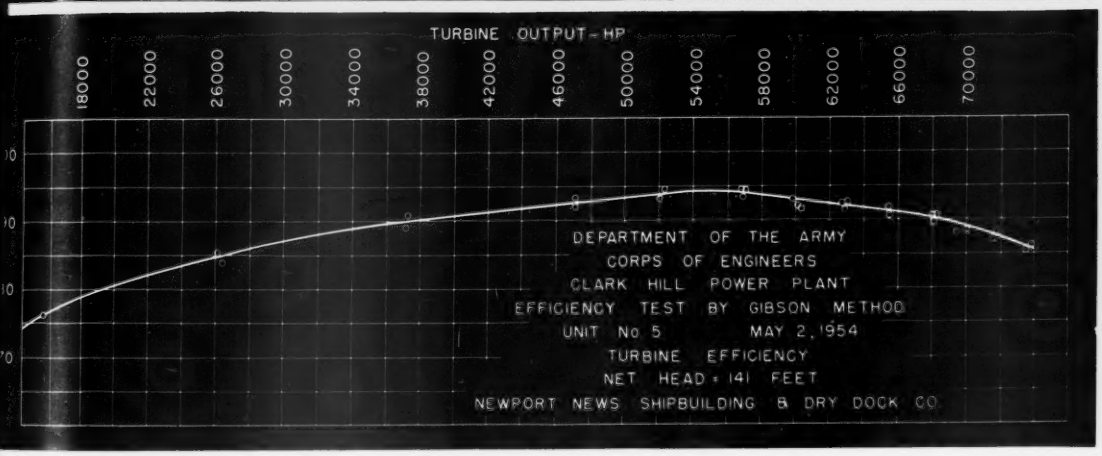
Without the trailer, these same terials would have to be unloade the job and covered with tarpa

Recently, the new trailer, haul a truck, made its maiden trip int field.

It was taken directly to wher underground crew was working. T men were due for a review of ficial respiration and the trailer to be their meeting room. Twelve fitted comfortably in the unit, and was ample room left over to con the safety refresher course. Wit the mobile meeting room, the would be inconvenienced by havi travel to a Company warehouse

"We think the trailer has an greater potential. Already other partments have become interest our experiment," section empl said.





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THE GRAPH shows performance of a 55,000 horsepower turbine, one of seven such units built by Newport News for the Clark Hill Power Plant (see photo).

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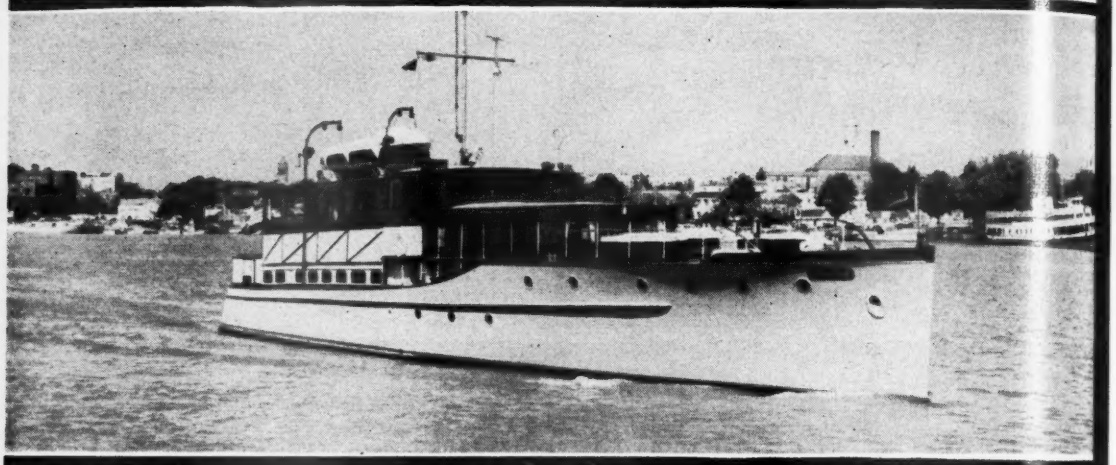

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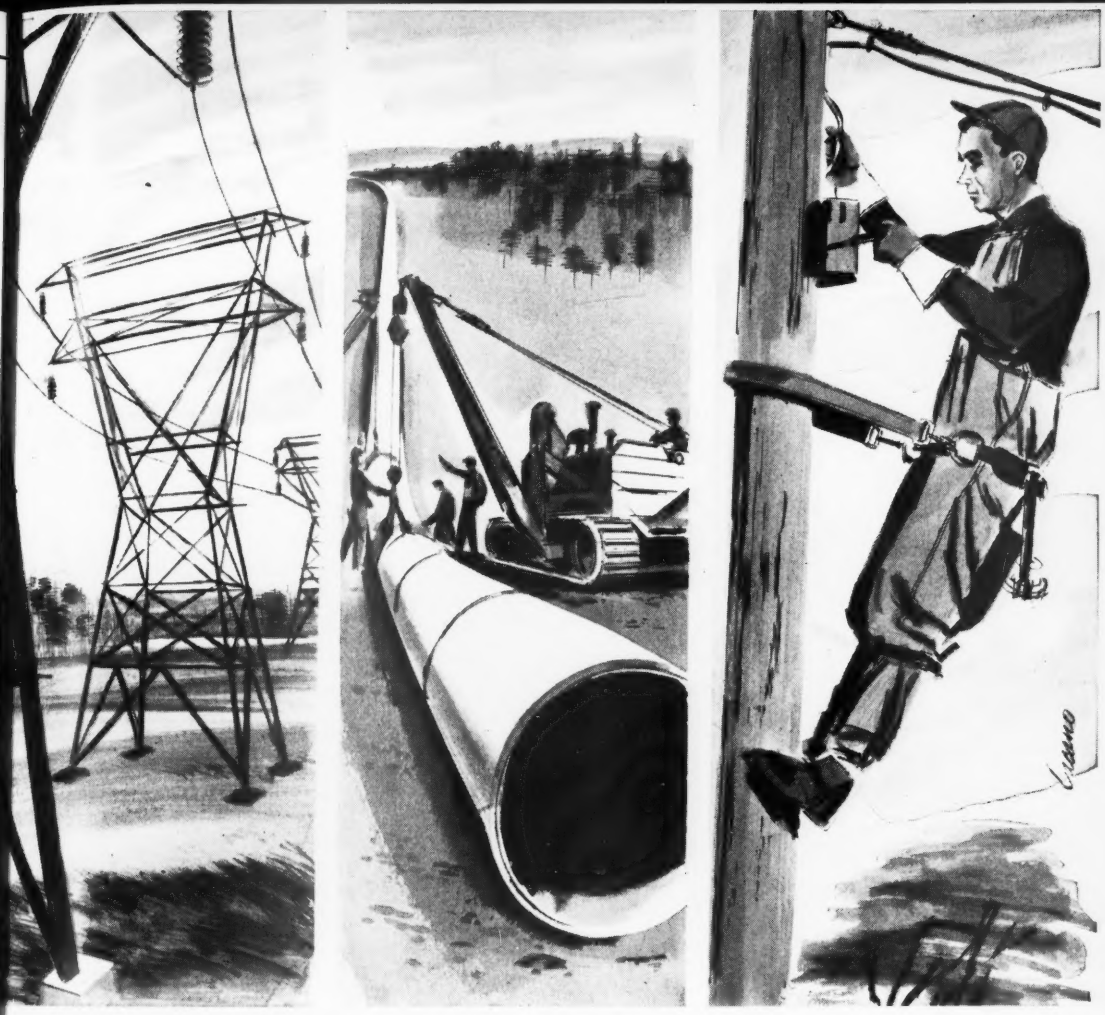

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